

**THE ABC'S OF THE OPEN CLASSROOM**



The  
ABC's  
of  
the  
Open  
Classroom

Wesley  
P.  
Gingell

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To

The Staff and Children at  
Middleton Primary School

With thanks to

Edna Wyane

Mildred Penfold

and Ron Faulks

# Introduction

AS I sit by a roaring coal fire on a winter's afternoon, it is difficult to know where to start on the job of collecting together the amount of information and variety of ideas which must be gathered into a book of this sort.

The subject is one of the Education of young children for the roles they are to play throughout the rest of their lives. *Education*, so the dictionary tells us, is instruction and learning. That is something in which we all take part all the time, but if we stop to consider "how?" we soon become aware of the variety of ways in which we "learn" and are therefore "instructed."

This morning, although a Saturday, I found myself accompanying a party of eight and nine year olds to the Theatre. We saw a production of "The Swallow Garden" — a Chinese Fairy Tale which was performed at the Nottingham Playhouse. The Theatre was opened in 1964 and is an exciting, modern building of simple design. For many of these children it was their first introduction to "live" theatre and they were overawed. This experience will be one they will not soon forget, especially the moment of the appearance of the fire-breathing dragon with the accompaniment of fire-crackers, smoke and sound effects. The costumes were magnificent and little touches such as the meal taken from bowls with chopsticks did not go unnoticed. The children eagerly entered into the spirit of the production when invited to "boo" the villain and cheer the heroes, and they were delighted when after the curtain call the cast led out through the audience and the characters spoke to them.

This was without doubt a true learning experience but it was also interesting for the adults to note the different reactions from different children. During the interval some wanted to share their excitement immediately. Some confidently found their way to refreshments and rest-rooms, others hovered until accompanied and others remained in their seats. It was a shared experience but learned in many different ways.

The journey on a double-decker bus was also an important part of the adventure, although it only covered one and a half miles and lasted ten minutes. To be on a bus without a parent was something new to many of them.

Talking to the children on the return journey they chattered excitedly. This had been a stimulus. No doubt, on Monday morning those children will burst into the classroom, anxious to contribute their thoughts and ideas on the visit. Much oral work, some written work and a variety of art work will naturally follow. With luck, interest will be shown too in some mathematics. The class will be interested to work out the total cost of the tickets, the amount of money paid for the double-

decker bus, the proportion of room they took up in the theatre, etc.

What a delightful way to learn, but perhaps this kind of learning can go on all the time. Not that I am suggesting the extravagance of a field trip to help illustrate each point in maths and provide a subject for art and creative writing. However, it is obvious that a learning experience which is enjoyed is an easy task for the child and has more chance of being retained.

This book is a very personal account of the aims and purposes of education. My knowledge of English Primary Schools has been formed mostly by my own experience teaching in the City of Nottingham. However, England being the size it is, we do seem to know what is going on in different parts of the country.

In the U.S.A. I spent a year as an Exchange Teacher in Iowa and visited schools in Illinois, New York and Texas. Delightful visits were also made to British Columbia and Ontario in Canada. The question most asked during that time, during my two return trips, and since I came home, was "How are American and English children different?" Apart from the fact that no two individuals are alike, the accents are different and in some ways the style of dress, the answer is "They aren't!"

Class for class, we had the same "good" and "bad" days, the same successes and failures and the children on both sides of the Atlantic are just the same.

I took a class of 4th graders in the States which was the same age range I had had in England the previous year. Apart from the differences in the size of the class (47 in England and 28 in the States) there was the same variety of eager, enthusiastic, disheartened, timid and idle children.

When I first entered an American classroom there was the usual adjustment period that a teacher goes through with any new class. We weighed each other up, discovered one another's personalities and built onwards from there. A classroom atmosphere is created partly by the teacher and partly by the children. A set of rules within the class are established together and a framework of security erected in which the children can work as a group.

There were also many questions about how we work in England and the results we obtain. During the course of this book I will try to answer these questions and will gather together the various conclusions at the end.

The "Open Classroom" is another definition in the long string of ambiguous educational jargon. In England during the last fifteen years we have been subjected to many: e.g., topics, projects, centres of interest, "informal" education, team teaching, family grouping, group work, plan work and the integrated day.

On reading information on these, it becomes apparent that there are nearly as many interpretations of the definition as there are teachers quoting them. Usually there is conformity throughout any one school and quite often throughout an education authority; and one can soon relate to different terms applying to the same project, e.g. different teachers refer to individual work done by children on a subject chosen by themselves as "Individual Project," "Topic work" or "Interest Books."

The same confusion arises when the class is studying one subject but producing

some individual work, some group work, some original work and some directed work, e.g. "Project", "Topic", "Centre of Interest" or "Group Work."

There again "Group Work" to some teachers is a situation where every group is working at a different subject.

In the Chapter on "Methods" I will go into this more fully and try to show how little the actual title means. It is what goes on in these times of study which comes to mean something to the children and they seem to adapt to a new name for the activity very readily. This becomes clear if children from another area join the class.

The "Open Classroom" or "New School" as it is called in some areas seems to be an extension of what is called an "Informal Approach" or "Modern Method" in English Primary Schools.

As can be imagined this is practised in varying degrees from Authority to Authority and school to school. The Principals (known as Headmasters) and the Class Teachers have almost unlimited freedom in school so the methods can vary a great deal.

In my own Teacher Training Programme, and my experience in the Practice of Education, I have valued the freedom I've been given and it is this that I hope to convey in the coming chapters.

My aims in Elementary Education have been consciously built up over the last twelve years, but, no doubt, much of my own schooling has left its mark on the formation of my ideas. One thing of which I am quite sure is that there is no ONE way of teaching or learning. Neither does one way work with all groups with which the teacher comes in contact. I shall be explaining how I have used and adapted my own methods during the years I have been teaching. The methods used by other members of the faculty will come into this because we work as a team and are constantly influenced by one another, the different groups of children we have in a class, and the facilities available. I shall also include examples of the work done in other schools I have visited.

The term "Open Classroom" to many may conjure up visions of a room with no doors, classrooms without walls, surrounded by windows, or one with no desks. To me, the "Open Classroom" is the series of relationships within the classroom, between the child and the teacher, and between the children themselves. The "Open Classroom" should be a place where the child can grow and develop at his own rate. It should be a stimulating environment to which children will readily come. It is also the method of learning which goes on within any group. NOT that this is any one particular method. There will be similarities but each classroom will be as different from the next as the personalities of the teacher and the children inhabiting them.

The fact that it is such a vague term is an advantage. There is plenty of scope for teachers to interpret it in their own way.

One thing "Open" does suggest is "freedom" and that perhaps is the most important gift in education which can be bestowed on a teacher or child — the freedom to learn.

However, already complications are evident. The readiness for the

responsibility which must be taken in the use of this gift is something which varies tremendously from one individual to another.

After taking a limited worm's eye look by one British teacher of one American school system in the first chapter, attention is turned for the remainder of the book on the two people most concerned with learning experiences in the classroom.

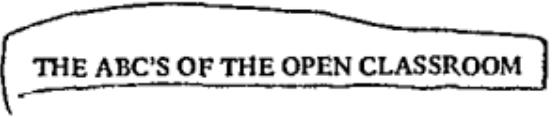
A. The Child

B. The Teacher

The two interact so much as that it is almost impossible to separate them, but first to be considered will be the needs of the child and how his needs can be fulfilled; and next the classroom situation from the viewpoint of the teacher. The twelve remaining chapters will then describe some of the many teaching/learning interplays and interdependencies of child and teacher to one another and to the small world they mutually share.

Wollaton Park  
Nottingham, England

L.P.G.



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waiting for the day she sets out to travel "surface" from the Mississippi to Los Angeles!)

It was the Mississippi which heartened me. At least everyone had heard of that even if my own Geography Examination Syllabus hadn't mentioned Iowa.

That afternoon I set off to the largest bookstore in the city. I hopefully searched the Travel Section but could only find New York, Florida and California. I climbed to the 4th floor — Education, and started to search through the Geography Section. The only "ray of light" shone from an enormous book which devoted the middle section to the Mid-West.

I eagerly turned to the relevant section but my heart sank as I read, "The hot, humid weather in Summer makes it difficult for cattle to survive."

"Blizzards sweep the plains in winter often severing communications for three weeks at a time."

If cattle had trouble, what chance had I? Five days to wait for air mail letters from home had seemed hard, but three weeks...!

That book went back on the shelf and I decided to reply to the letter from my exchange to find out more details! This proved much more satisfactory. I survived very well and thoroughly enjoyed my stay.

The reason that this chapter is included is because it fits in with some of what I have described in the Introduction and what I will be describing on the remaining pages of this book.

During my stay I saw schools which were so "open" that any I have taught in seem very "closed" by comparison, but the school in which I taught for that year was run on more traditional lines. The teachers were enthusiastic and hard-working, the Administration efficient and smooth-running and the Principal anxious to encourage varied methods to suit individual needs. He and his wife were amongst the group awaiting me at the airport. While lunch was being prepared he drove me to school to show me my classroom. On opening the door he said, "Here is your room," he said. "I'd like the children in here to have a year in England."

I did not realise at the time what a gift that statement was. I was being given freedom in a system which was more structured than any I had ever worked in.

If I did not appreciate the statement, I certainly appreciated the room. Light, with satin-smooth blackboard, screens, window-blinds, power points, sufficient pin-boarding, individual desks and space all round and — joy of joys — a sink (with hot and cold water.)

On closer scrutiny I found maps, coloured pins and labels and many other commercial aids. In actual fact I used few of them. "Old habits die hard," and I could never bring myself to use cut out letters instead of making my own labels.

At the time I arrived, I had no intention of "opening" a traditional classroom. I did not know very much about how classes were taught in the school. I understood that there were set books to be used with which I was not familiar and that I was only responsible for Language Arts and Social Studies. I was to work with two groups which was another new aspect of teaching for me. At the same time as adapting to these things I was struggling with a completely new way of life,

adapting to time change, and trying to see what was going on in the rest of the school.

I mention these points because I am going to recount what I did during my time with these classes. I was not trying to reorganise the system, I was just trying to adapt my usual teaching methods to the situation in which I found myself. Ideally, to "open" a classroom I would like to have a group of children in a self-contained room. Then the children can dictate the rhythm of work. However, as will be shown in succeeding chapters, an open attitude can be accepted at any age in any subject.

The first thing I did during the week of Pre-School Workshop was to move the desks from their rows into groups of four. The teachers (who were so good at looking after me and making me welcome) looked often to see how I was getting on with "doing my Bulletin Boards." I was getting on very badly because I didn't know what to "do" with them! Up and down the corridor various posters appeared, welcoming the children back for another year. I was at a loss. I didn't discover the ones left by my exchange until it was too late.

However, I set to with a felt-tip pen and decorated my door. I didn't want my classes to start the year feeling deprived.

I was used to starting a new school term with a few pictures and work cards to introduce a main topic and the decoration of the room would grow according to the interest of the children.

During the visits from members of the faculty three different teachers looked in and asked (very tactfully) if the children sat in groups at home. One said (not quite so tactfully) that she thought I was asking for trouble. I began to doubt my own judgement. I had taken the district to be similar to the one at home and the children there managed to sit in groups without a riot arising. I had met some of the children during this week. They were as curious about me as I of them and several cycled by when I was working in school during the week. They seemed "normal" children, friendly and well-behaved (apart from the habit of shouting "Hi!" at the teachers which I found hard to accept with my conservative English background!) I finally plucked up courage to ask a younger teacher why the faculty viewed groups of desks with such suspicion. "The children will talk," she replied. That was a relief! I didn't know her well enough at that time to explain that that was what I wanted.

- a) Groups i) and vi) (High High and Low Low) worked together.
- b) Groups ii) and v) (High and Low) worked together.
- c) Groups iii) and iv) (Low High and High Low) worked together.

I found that my Home Room contained Group a) (High High and Low Low) and I taught them for the whole of each afternoon. My mornings were to be spent with Group c) (Low High and High Low). They were all about the same level of ability which made them easier to teach.

Group b) were taught Language, Arts and Social Studies by another teacher.

Coming from a system which does not group according to ability, I was very confused and attempts at working out "highs" and "lows" reminded me of an oriental language. The confusion was made worse by the realisation that some children had been retained because they had "flunked" and were "dummies" (two new words for my vocabulary), so I also had children out of age group.

This grouping accounted for the variety of Reading Texts with which I was confronted.

I read all the Manuals and worked out in which group each of the children should be (helped by record sheets and notes from my exchange.) Then I noticed that the Teachers' Manual was exceedingly large. I discovered then that it contained a quantity of red writing in addition to the text written for the children. I was somewhat hurt that the Manual provided questions for me to ask, to ensure that the children had comprehended the passage.

I tried. For the first two weeks, the first part of my day was spent organising the groups into the reading corner and listening to them, but it just didn't work. The only thing I liked about it was the novelty of having enough room for an extra set of chairs.

This method of teaching reading seemed so time consuming and the children not in the group had to do "busy work," much of which I thought had little value. The good readers did not need to dawdle through the text and showed little interest or enthusiasm. The poor readers needed the practice but could not read sufficiently well to cope with "busy work." By the time we had completed the reading and spelling work, there was little time left in Language Arts for discussions, drama, poetry, story writing, etc. After a time I began to see the value of that remark "Let the children have a year in England."

I re-thought my programme. Some of the work I had to do as it was laid down, because at the end of the year the children were to return to the programme set down for them and I should return to England. I decided that I must follow the Spelling Book with them week by week and cover the work set out in the Social Studies text book. I would give the children every opportunity to improve their reading but otherwise I would set up a classroom as I would at home. I would have the children talking about themselves and their interests, to try and set up a classroom where children could learn to learn from interest rather than be submitted to a series of facts. We would follow the Social Studies Course in a series of topics and try many methods to give new dimensions to the subjects to be studied.

The top group of readers read their texts at their own speed and then went on to read the fiction books in the room. It took many of them a long time to learn that they could read books in school for pure enjoyment, no questions asked. One very bright child astonished me one day when I suggested that as he had finished his written work he might like to read.

"But I've done today's reading," he said in a hurt voice.

The middle groups chose books to read but also followed the text, heard by me or one of the top group two or three times a week.

I took the bottom group of children out of the text altogether. I worked with these children every day and we worked at word recognition, building up sounds, etc. We found short, simple supplementary readers for them as I thought there could be nothing more depressing than the thick text of which they had no chance of completing. With help they could read a book of 10 or 12 pages and have the satisfaction of completing the task.

I made mistakes. The ones I am recounting here are the ones of which I was aware. I dread to think of how many I was unaware!

I just wasn't used to so much efficiency and organisation. Few Authorities in this country have a system of Supply Teachers. Thus, when there is a long absence by a member of staff, a teacher is found and comes in and either carries on from what she can see is going on and of interest to the children, by displays and activities, or starts something new. Therefore, keeping a Plan Book was a chore I found very tedious. I had no difficulty in thinking of things to do — it was getting them done! We would get side-tracked and I would open my book at the end of the week and discover that I had completely forgotten some of the things I had written down. On the two occasions when I was given leave to attend conventions (N.A.E.Y.C. in New York, November, 1968 and A.C.E.I. in Houston, Texas, April, 1969.) I worked hard on that Plan Book the week before so that I really had done what it said.

Another problem to me was the Weekly Bulletin which came round. I was impressed by this method of communication, enjoyed reading about the events of the coming week and made a note of anything which directly affected me or my classes. Unfortunately, no one told me that it should be filed. (I learned to file everything eventually.) The awful truth came with Bulletin No. 6 which said — "for details please refer to the list in Bulletin No. 1." I had to admit that Bulletins 1-5 had gone into the Wastepaper Basket!

That was another problem, Language!

The children did not call it a wastepaper basket. Despite the warnings about differences in vocabulary, my classes were silent for most of the first week. They didn't understand what I was saying! Even when we came to an understanding about vocabulary and pronunciation there was the problem of the accent. It seemed to have a fascination for them.

When I accused Katherine of not listening one day, she said, "I was listening, but to the sound not the words."

I never did catch up with the Spelling Programme. The work in the book was

divided into days and weeks. We started school on Tuesday and I somehow didn't start that week. Consequently, at the end of the month when everyone was marking Review work I was a week behind. At the end of the year we had to do two weeks work in one.

Writing was another stumbling block. Those who could write fluently had been used to having to correct their work and were unwilling to write very much, knowing that it must be re-done. They were the happiest with one word or one sentence answers which could be checked and graded. Many of the children seemed shy at putting down feelings and ideas. They would come to me with three or four lines and ask, "Is this enough?" I always replied, "Have you said all you can say?"

The answer was invariably, "I don't know." Some of them did not want the responsibility of making their own decisions in their work. This too was understandable. Those who cared had much to lose by making a wrong decision. Those who were poor students and labelled as such chose to do nothing rather than add to their failures.

In exasperation one day, I said, "I should have thought most of you could write at least 10 lines."

All but four (who could write very little without help) wrote exactly 10 lines. Then I understood that they were used to being told what they were to do.

I was not used to grading work and found great difficulty in doing so. I was still learning the standards I should set. It took some time to convince the children that I wasn't interested in comparative marks. Of course, some grades had to be given for report cards but very rarely did I grade individual papers. The brighter children took longer to accept this but the children probably accepted it more readily as I was a stranger and my methods of teaching were different from those to which they had been accustomed. I set up a points system for the children. I divided the classes up into teams each consisting of a cross section of ability. Instead of grading individual papers children worked for points for their teams. These were given for academic and non-academic achievements. This gave everyone a chance to participate. Team points were calculated at the end of each week.

Having set up the idea of compiling Interest Books and following topics we came up against the difficulty of children not having their own exercise books. We overcame this by making some. At first the children each had two — one for their own individual interest, and the other for our first Social Studies project.

We started our Social Studies Programme by making a Centre of Interest around a village in England. I had mounted a display of postcards and pamphlets of London and places of historic interest in Britain. We studied a map and related the size of Britain to various States and plotted my journey from Southampton to New York. From this we linked the work in the textbook on early explorers beginning with Christopher Columbus.

The work on Columbus was our first effort in group work. Each table used what we had learned in class to compile a book of pictures and writing. It was at this

point that the Art Teacher helped by giving me some art materials from the Art Room, I found some children needing encouragement to express themselves freely even with art materials. They were unsure about producing individual work on a subject. There was no reassurance of comparison with a friend.

The first Interest Books were not good but the children liked the idea and we hung the books around the room and these gave the children something at which they could work in spare moments. It was an open ended learning experience on which no standard was set for the child. They served a useful purpose in teaching the children how to plan and present their work. The second round produced much better results.

I was loathe to distinguish between the High High Group and the Low Low Group but I found the children were very conscious of their groupings and grades and it was hard to integrate them. I started by mixing them in the seating arrangements and introducing some group activities so that the end result was a combined effort.

The children felt safer if they went over a Unit in Social Studies and then answered questions on it. Once this was done those who had completed the set work were willing to go further. Unfortunately the poor ones never seemed to complete anything and were so conscious of being "behind."

When we started the topic "Houses and Homes," I suggested that the children find as many varieties as possible in their Social Studies Book and make Models. Then we would discuss the reasons for such a wide variety in different countries.

There were some delightful results. Graham Crackers and Bread Sticks made into a log cabin, a sugar cube igloo, a grass hut on stilts with creeper cut to make a ladder. Some of the lower group really enjoyed this work and once the interest was shown they talked about what they had done.

I wrote down from dictation descriptions by some of the children who had real writing difficulties. They then copied it. Pride was taken in this as the descriptions were put up beside the models. This only worked for a few of the group, but it was a start. These children began to have ideas for themselves and set off on small assignments without having to be guided every inch of the way.

The reading groups suggested names for their groups and voted on them. This meant that when they were called upon as a group, attention was not drawn to their level of Reading Text.

Creative writing was a problem because few of the children seemed to derive much satisfaction from committing ideas to paper.

It was Halloween time before we really came to grips with the situation and the children began to understand what I wanted. We only pay 'lip-service' to the occasion in England, although Primary School Students are beginning to see this celebration's possibilities. The ideas stimulated by the background give rise to delightful creative work.

I was fascinated and watched the displays appearing in shop windows with growing anticipation. Being fortunate enough to live with a family, I became involved in the arrangements of choosing a pumpkin to make a Jack o' Lantern,

seeking out costumes, and buying candy for "Trick or Treat."

My fascination stimulated the children. They could not believe that it was all new to me; that I had never seen a pumpkin and that in England candy wasn't bought in such vast quantities.

Behind the house was a cornfield and I saw an illustration of a scarecrow made from corn shucks in a magazine.

The children collected scrap material and we spent one day making scarecrows. I asked the children if they wouldn't find it easier to work on the floor. This they obviously hadn't considered since Kindergarten but, on consideration, decided they liked it. (We then had to come to an arrangement that some things are best done on the floor and others at a desk!)

However, for the first time I felt really comfortable in the classroom. The children were all involved in what they were doing. They were helping each other, trying out their own ideas without looking to me for guidance. We hung the scarecrows from the ceiling over the reading corners and there they swung until it was time for Christmas decorations.

Because I was so ignorant on the subject of Halloween, the children felt the need to inform me. Consequently, they talked and with some persuasion wrote down information.

It was about this time that my Exchange and I arranged for our two classes to correspond. We matched the children as well as we could and as I had 18 children in the morning group and 28 in the afternoon and she had 43 in a self-contained group in England we only needed a few other children to make up the number. We corresponded throughout the year and I know several children are still continuing this correspondence. The children exchanged photographs, coins, post cards and, having teachers from the other country, were able to sort out misunderstandings due to language. We made tape recordings and sent them. Parents became interested and mothers began a recipe exchange. Two whole families became involved and I understand that they are to meet in Canada for a summer vacation. The children in England were thrilled to receive Halloween cards and stickers.

On October 31st we had a Homeroom Party laid on by Room Mothers (another institution I had not met before.) and the 1st graders paraded in their costumes. A witch (the school nurse) came to visit the class, complete with broomstick and concealed tape recorder playing eerie music, and succeeded in making all of us a little uncertain.

The day over I awaited the evening activity. So much of that year in the States is implanted deeply in my memory, but that evening was very special.

The first callers arrived towards the end of dinner. We were eating by candlelight and the first "witches" and "ghosts" flitted past the small lamps leading to the door. The bell rang and I found myself strangely moved by these little figures so convincingly disguised. The evening wore on and more and more of my class giggled and chattered their way to and from the door. A few voices I recognised, most I did not, and it was oddly disconcerting not to know who was

behind the mask.

The children were delighted at my pleasure and most of the next day was spent in follow-up work — discussions, writing and picture making. From this we decided to celebrate all Festivals which came during the year, on the understanding that I provided the information on the English ones and the children organized the American ones. This worked well because the children tended to be more enthusiastic about learning about the ones which were new to them, but they were also most anxious that I should learn about the ones with which they were familiar.

We were kept very busy during the following months. Following Halloween we had Guy Fawkes Day on November 5th and Thanksgiving at the end of the month.

Guy Fawkes Day or Bonfire Night is the celebration of the failure of Guy Fawkes in 1605 to blow up the Houses of Parliament when the King went to the Opening.

As well as studying the historical story I told the classes how the children celebrate this usually cold, damp November evening with fireworks, a bonfire, hot dogs, and potatoes baked in the fire. Weeks beforehand children make stuffed effigies of "Guy" to burn on the bonfire (historically Guy was hanged but traditionally he is burned.) Years ago the children would wheel their guys around the streets on a barrow, chanting —

"Remember, remember the 5th of November  
With gunpowder, treason and plot.  
I see no reason why gunpowder, treason  
Should ever be forgot!"

They also pleaded "Penny for the Guy" and the pennies gathered from the passersby were spent on fireworks.

The American children enjoyed these ideas and some good descriptive writing developed. Kim, a boy in the lowest group who had been retained, wrote four or five lines (the most he had ever produced for me). I couldn't read it, but he could and I wrote it out again for him to copy so that it could go on the wall. He was really proud of his piece of work and every day as soon as he arrived in the classroom he would stand with his hands behind his back and read his work.

It was in November that I returned to New York for five days to attend the N.A.E.Y.C. Convention. Although some of the children had flown, and one or two had been to New York, there was great interest shown in the trip and the usual jokes made about all of us going.

When I returned with postcards and books (I am a typical tourist) we made a display. I had saved all the tickets and wrappers from the journey and we undertook an imaginary trip to New York making models and pictures to illustrate the writing. The children begged carbon paper from the Office and made "air tickets." We made coloured card folders and decorated them. We talked about time change and distance and the hustle and bustle of city life. We compared the height of the school with the Empire State Building and I wished

that my job here included the teaching of math.

The display grew and more and more of the commercial illustrations were taken away and replaced by the children's own work.

By this time, the children were talking freely in class and were beginning to respect various points of view and not fear ridicule at expression of feelings.

Most of the children had given up asking for grades, but at home I was taken to task by the 5th grade member of the household. It appeared that although my own classes had accepted the new situation, some of the other classes could not understand. That made me wonder what the parents of my class members were thinking.

With the permission of the Principal I invited the parents to come to the classroom one evening to ask questions. They came and they asked. Some were puzzled about how a check could be kept on the progress made by each child in specific concepts when the subjects were studied in what seemed a haphazard manner. Most of these doubts seemed to be dispelled when they saw how much the children had produced. Only one parent openly admitted concern about the absence of grades on papers. I offered to grade them but he did not insist. His daughter was an "A" student and the parents of children of more average ability seemed pleased that pressure had been relieved.

My biggest disappointment was that Kim's parents did not appear. Maybe they had become discouraged over the years. I don't know. I never had the chance to meet them.

Religion not being taught in schools in America, I approached the Festival of Christmas with some anxiety. However, we studied the various customs from around the world and touched on the Story of the Nativity as a part of history. We made most of the decorations for the classrooms, and one of the happiest memories of that class is of Scott (a boy from an unhappy home background) sitting on the floor making a tissue paper mosaic of a Shepherd, singing "Ho! Ho! Ho! It's Christmas." It was on that afternoon that the Principal put his head round the door and said with a grin, "Language Arts or Social Studies?"

I was forced to admit that I did not know!

After Christmas we moved slowly towards the children taking more responsibility for their own work. Some adapted much more quickly than others. Some would, I am sure, have been relieved to get back to a more structured system the following year but others had tested and found a taste for more freedom.

For my part, I would have been happier if I could have worked with one group of children all day and been able to integrate all subjects. Perhaps this method was better for the children as they were not taken out of the system completely. I found it difficult as I seemed unable to keep off the subjects I was not supposed to teach. As a subject for Creative English one day we talked about a Rainbow as we had a perfect example outside the window. From this came a discussion on Light and the Spectrum. It just did not occur to me to discuss this with any other member of the faculty and it wasn't until later that I discovered that the Science Teacher was concerned that I had encroached onto the syllabus for the following year.

I was guilty of this again towards the end of the second semester. Having worked in small groups from time to time, I wanted to do the last unit "Communications and Transportation" by turning over much of the responsibility for organisation to the children themselves. Together we looked at the History of Writing. We learned how to make Indian signs and to send messages. Each child made a book on Communications.

From this we looked at Transportation and Power.

There were seven tables and each group chose a kind of power and a method of transport. Some groups needed help and others welcomed the opportunity to use their own ideas and reference material. Two boys set off on research on Atomic Power. On seeing how much they had collected in their folder, I questioned them on their work. Although parts of their information was much simplified, I was impressed by their interest and diligence.

I learned later that the subject of Atomic Power came in the Science Syllabus in the 6th grade, but I'm sure that those boys would have been resentful if I had interrupted their search for knowledge on that subject at that moment in time. By the time they met the 6th grade science syllabus they would have learned new facts and built on from the foundation they had laid from their own interest. (I also had an idea that the Science Syllabus might have changed during two years.)

At the end of the research time the children presented their work visually and prepared group reports which they delivered to the class.

I read to both groups of children for at least half an hour each day. I read books which I hoped would encourage the children to write, e.g.:

"The C.S. Lewis "Narnia" books

"The Hobbit" by J.R.R. Tolkein

I also read books set in England to help the children understand a part of my background, e.g.:

"The Family from One End Street" by Eve Garnett

"The Woolpack" by Cynthia Harnett

The latter book is set in a village in the Cotswold Hills in the 14th Century. Having spent my childhood in the Cotswold Hills, I could give the children background information which added to their understanding.

Sometimes I read the first few pages of books in the classroom to encourage the children to read on.

*It took much longer than I had anticipated to open up a traditional classroom, but then that was not what I meant to do. It is only on reflection that I see that that was what I could have done.*

If, in fact, the prime importance of an Open Classroom is attitude, then I think that the Classroom during that year was "open," but it was a long way from the integrated open-plan school that knowledgeable people usually imagine when the word "open" is mentioned.

I have written about that year, hoping that it may encourage those who are used to traditional teaching and would like to try more informal methods. The change cannot be made overnight. It must come gradually and be the product of an

understanding between the teacher, the children, the school administration, and parents.

The balance of this book therefore describes, to use a euphemism, THE ABC'S OF THE OPEN CLASSROOM as practiced in England. For the most part, it is a highly personal account since it is my wish to talk as one teacher to another. Hopefully, this "show and tell" will aid those fellow teachers who, too, wish to open up their classrooms a bit more . . . or even a whole lot. That being so, our attention must focus on the child. Thus, a focus on the child is where this book really begins -- and where it ends.

"asking." An even harder lesson to learn is that often such a request does not expect a refusal!

It is even harder for the teacher to achieve these small courtesies amongst the class without causing the children to look critically at their own families. The school can often help to re-educate the families with patience and understanding, but it must never condemn them. Some children happily accept one set of standards at home and another set at school. In fact, adaptation to different standards is something an individual has to learn and if it can be learned at this early stage, so much the better.

Routine gives security and in the first years in school a routine is usually adopted to enable the children to settle quickly. Some are soon ready to take more flexibility but others take much longer. Even when they are further up the school, some part of each day should follow a pattern. Some need this established for them; others will build it into their own individualized programme.

As well as an emotional stability, children need physical care. Children need to be well fed and adequately clothed if they are going to be receptive in class. A child who comes to school hungry is not going to settle to work. The school can sometimes help in the re-education of families on this point and in some cases food can be provided at school for children who need it. Until recently, free milk was provided in this country for all children at the Primary School level. Now it is only provided until the age of 7 years and to older children who are considered to be in need of it.

Much can be done through Community Organisations to help children who need extra food and clothing. At the Primary School age, the children need practical help as well as the help in understanding the importance of satisfying these needs. Even if families are receiving financial help and Government Aid, if the children are not receiving benefit they are not in a position to help themselves.

Teachers have an important role to play here. They very soon become aware of difficulties such as these. Also those of ill-health which can be detected quite easily if children are having difficulties in seeing or hearing in class, or seem to have emotional problems. Although all these problems must be dealt with by a specialist, a teacher cannot help being involved and can be of service in obtaining assistance.

There is so much more in the job of teaching young children than just delivering the concepts to be learned. It is a helping of individual development and needs to be approached on an individual basis.

## II. AFFECTION

Both parents and teachers carry a responsibility for this. The child should never be in doubt about the affection of the teacher. It is important to any individual to have the approval of his peers. Each child should receive the same amount of attention within the family and the class. In both cases the child will have to learn to take his turn and accept the attention in different ways. But, he should know,

for certain, that he matters to his parents and the teacher and that they care about him, what he is doing, and why he is doing it. An explanation on why he has to wait or why it is not his turn is always helpful to the child and is less likely to end in resentment.

Words of reprimand should be chosen carefully so that disapproval is directed at the actual offending behavior and not towards the child. That is not to say that the child should feel blameless, as if the deed had been caused by some mysterious "nobody." He must learn to take criticism for mis-deeds and face up to them, but always know that, as far as other things are concerned for which he is responsible during the day, no grudge will be held against him.

Losing one's temper with a small child seldom helps improve whatever is wrong. It may release the adult's feelings or irritation but an adult can control emotion and a small child finds it much harder. Consequently it usually ends with upset all round.

Teachers are only human and children can be very irritating. Some children, for a variety of reasons "test" a teacher and will produce poor work and bizarre behaviour to watch the reactions. This can undermine the teacher's position in the classroom unless a standard is set from the beginning. Above all, the teacher must seem to be fair. The children must know what standards of behaviour will be accepted and if there is need to alter these, there must be an explanation. "Because I say so" is never very satisfactory. There are some occasions when it is impossible to give the children the straight forward reason and when this is so, they will have to accept that you, as the teacher, are the one who is left to make the decision. Explaining that one can only do his best in deciding a course of action which seems wisest in any given circumstance will be more readily understood if the children are accustomed to the teacher being "fair."

All the children in the class must be aware that they are one part of the whole group and that their absence is a loss. There are some children who are difficult to live with and a break can be a welcome relief, but the child will be no easier to handle if he knows this. It is unusual to find a child who has nothing to offer to the class, although it may take the teacher a long while to find it. Time must be spent with individuals to know them well enough to learn what really matters to each of them. This individual attention is often all that is needed to gain their co-operation.

understand the processes which are gone through to find accurate answers.

### III. ENCOURAGEMENT

Having taken into consideration the two previous "basic needs," the teacher has a chance to set the stage for the fulfillment of this, the third one. "The fullest use of intelligence can only be made through a stimulating environment."

What is it we hope to achieve within our own classroom situation?

Whether or not we have a class made up of one age group or a family group (vertically streamed), I feel that it is important for children under 11 to 12 years to be with one teacher for most of the day and to be on a home base. Ideally, the children will be given the opportunity to move from one group to another, carry out work in various parts of the school, to travel backwards and forwards in search of books, etc., but at this stage are not usually ready for the responsibility of transferring themselves and equipment to different departments. It is usually at the age of 7 or 8 years that children come towards working in self-appointed groups rather than as a group of individuals. Many adjustments have to be made. To have the same teacher throughout a year cuts down on the number of relationships which have to be formed by the children and provides a constant atmosphere for them in which to work.

I have had experience in taking the same group of children for two years, and know of schools where teachers regularly do this or even take the same class for the four years of their Junior School work. This not only provides a constant environment for the children, it gives the teacher a wider variety of work. Sometimes when this scheme is adopted, the group moves to a different classroom each year to give the children the sense of progression through the school, and new materials with which to work. In vertically streamed groups the children have the same teacher for two or more years but the groups change as some children are always leaving the top end to make room at the bottom. It is impossible to say which of these systems is the best. One procedure works better for some children than others and likewise with the teachers.

In a system where teachers take the same class for two or more years, I think it is important to look honestly at some of the relationships between teacher and children. There are some children in whom I have seen little improvement during one year and know that another year with me will probably not add to the progress made. Some children are not as happy as they could be with one particular teacher (sometimes unknown to the teacher!) Therefore, in a situation where a teacher is going to be with a class for more than a year, it is necessary to look at individual cases and consult with parents.

At this point, I can see that arguments can be put forward that a year is too long for some teachers and children! However, our school programme is set out in a year block and all relationships need time to be established. Both teachers and children benefit from the chance to work at getting to know one another.

If there is a teacher in the school who has a special talent in one particular

subject, e.g. Music, Art, Physical Education, then often there will be a sharing of teaching. Classes can be exchanged so that more children can benefit from specialist teaching. As our system in England is set, teachers all receive practice in all subjects on the curriculum and many enjoy teaching subjects in which they do not have a specialist's skill. Many find that they have more sympathy in teaching subjects in which they had difficulty themselves.

#### IV. AIMS

I think that teachers have several responsibilities and aims within their own classrooms:

1. To recognize the individual differences between the children. (I will deal with this more fully in the chapter on Methods.)
2. The building of confidence and self respect in each child.

Some children are bursting with self-confidence but in some this is only "skin deep," an affectation to cover up feelings of inadequacy. It is important to get to know the children and distinguish between the two. Others appear to have little confidence and these need to be helped too. They need to learn to accept themselves and each other. They should be encouraged to recognise effort which has been made by a member of the group. The teacher can do much to help this recognition. All the children should be awarded praise in front of the others, but it is necessary for the praise to be well-earned. The children are quick to suspect when the teacher, or other children, are just "being kind." Everyone can do something well, or better than they did it before, and praise goes a long way towards more effort and greater achievement. It is an extremely sad thing to overhear a child say "I'm no good at this" and worse to hear "I'm no good at anything." He has usually been discouraged in the activity because most children only embark on an activity which they think they can achieve, even if the end result is not what an observing adult had in mind.

3. The raising of individual standards.

Children within the class should never be compared with each other. There is always a place for good work to be recognised and sometimes children are inspired by others, but a teacher should never assume that all children within one group can attain the same standard, either in reading, mathematical calculations or colouring a picture.

The important aspects to be stressed are the effort and improvements. Some children seem to have an inborn pride in their appearance and the appearance of their work. Care and thought will be taken over everything they do. Others need to be trained in this pride. However, I feel that this is something which we can all work on together. If the children see that care has been taken with the presentation of the surroundings they will be more encouraged to take care with their own contributions. If they learn to care about the presentation, invariably the quality improves. A page of sums can look neat even if they are all wrong!

Although the aim must be for neat, correct calculations, if the child could make it look attractive he will not be ashamed to own his work.

Most children usually respond to a reward system. However, care must be taken to ensure that the reward does not remain as the only aim of the child. Stars of coloured sticky paper as a reward for good work usually acts as an incentive and the children appreciate this. Comments should also be added to work as encouragement. For example:

"This is much better. Do you think you can manage even more next time?"

"I like your drawings. Can you write something down to tell me more about them?"

Sometimes such communications need to be kept in a written record in this way, especially with a large class since it is easy to forget which children need specific help.

- Notes such as "Try these again and if they are still wrong come to me and I will help you," are helpful.

"Have you looked in Encyclopedia D-F? I'm sure you'll find what you need there."

Eventually, the child will attach more importance to the comments and the stars can be dispensed with.

Sometimes the children can be encouraged to take more interest in "how" they work if they work for points as a member of a team. This needs careful handling so that the total points for each team for a day or a week are shown rather than lists of individual achievements which can be compared one with another. Whilst helping build confidence in a child who is improving another child can become demoralised at the other end of the scale. Points should be awarded for other aspects of improvement besides work. I shall go into this more fully in the chapter dealing with the child's position in school.

Standards and values must be set for the children but never to a limit where the achievement looks impossible to them.

Values rarely spring up naturally and much discussion is important on how classroom activities are planned and executed.

This is a vital part of learning for those children who have difficulty in expressing themselves. Here is a situation in which they are directly involved. They should have opinions and they should learn how to express them. The classroom is an excellent airing-ground for them. The children should be encouraged to criticise constructively. They should not be afraid to say if they do not like an activity or the way an activity was put into action, but they should know why they have formed these opinions. The teacher plays a great part in this type of discussion. The children must learn not to be dogmatic and to listen to others. One of the hardest things for them to learn is that there is often more than one way of looking at a subject. Also that not liking something is not a reason for never giving it any consideration. In relation to learning, the reason for not liking a subject is often given as "It's too hard." It is a hard lesson to learn that this is not a reason to give up.

Although a teacher is constantly encouraging the children to further progress, it is important that they are made aware of their own limitations and those of others; not in a derogatory sense but to be more aware of raising the standard of what they are capable of themselves rather than fixing onto a goal set by the achievement of others.

The classroom environment is really only preparation for the rest of life and the children are learning to live as members of a community. In this respect they must not only be aware of their own limitations but also those of others. This can be unpleasant if there is a testing system where the members of the class are all vying for first place — a position only one of the group can attain! There is then a situation where the bright children are in constant conflict, the middle group of average children look like nothing, and the bottom ones have to adopt an attitude of "don't care." If testing of the children's abilities is done on an individual assessment basis, there will be a happier working atmosphere where they will be content to help one another. There will be more chance of High I.Q. Jimmie understanding a remark at the end of his two-page story "Good, as far as you went. I think you could have gone further with the description of the house," when next-door Low I.Q. Peter has "Well tried" at the end of his five lines.

Some children set themselves high standards because they admire the achievements of older brothers and sisters. These standards are usually achieved and children will quite often produce work above their potential. If they can see their goals, then this is the first step in mastering them.

Some children have high standards set for them by ambitious parents and are afraid to admit their difficulties in obtaining them. The teacher needs to watch for this and often parent/teacher co-operation can relieve the pressure on the child.

There are also children who achieve little although seeming to have a high potential. I will look at these along with other "kinds" of children in the chapter dealing with the teaching of individuals.

#### 4. Learning Skills.

It is often thought that the role of the teacher is to see that learning skills are carried out, but I am sure that administering to the other basic needs is as important to the growth and development of the child.

Learning is an activity which goes on all the time. The role of the teacher is to inspire a love of learning and an ability to use reference material.

Teachers should not give importance to academic ability. Learning should be a pleasant experience and a continual process — not something which the children think can only happen at school in connection with books.

Learning is a sharing activity and children should be encouraged as soon as possible to record their findings, to share with others, and to work together in the seeking of information. Discussion and reports will follow.

The teacher can do much to see that every child is a part of the whole and is encouraged to participate. Gradually the children can be given more freedom and responsibility in the choice of activity and the recording of work.

Freedom is a privilege which must be used within bounds. Not all children can

cope with the same amount at the same time. It is a responsibility and one that not all children find easy to accept. To begin with, guidelines need to be set by the teacher.

### 5. Discipline.

I have not put discipline at the end of my aims in the classroom because I think it is of least importance. On the contrary, discipline is of prime importance. There are two kinds of discipline — a discipline which is enforced and self-discipline.

Self-discipline is obviously what we are aiming for but it is not easy for children to discipline themselves all the time. In a happy atmosphere where guidance and suitable degrees of responsibility are given, the children keep themselves "in order." When they are busy and interested, they are not only learning but they are not giving rise to troublesome situations.

A certain amount of trust must be put in the children. By showing them that they are expected to deal with a situation and make a decision for themselves children are more likely to make a good job of it.

The children can see a reason for general orderliness if it is explained to them.

"As soon as the room is tidy, we will have a story."

This only works if story-time is popular, but it usually is.

"When everyone is ready we can go out to recess."

The children should be consulted in the organisation of the classroom.

"Can somebody think of a good way to store these boxes of materials so that they do not take up too much space?"

"Where shall we put the scissors so that everyone can get to them easily?"

If they start off realising that things need to be arranged to serve many people and not just for the convenience of one individual, they start looking at the whole aspect of orderliness in a new way. If children are given the responsibility for looking after the biscuit money, counting the scissors after Art and Craft, leaving the paint brushes as they would like to find them, money is rarely lost and equipment remains tidy. These chores must be delegated. Once it is left to everyone in general and no-one in particular things tend to go astray.

Order should never be an end in itself. The co-operation of children and the necessity of regulations should be obvious and set up to suit the needs of the classroom situation. Many children find difficulty in standing back from the situation in which they are standing and many do not see themselves within the group context. It needs much patience and guidance from the teacher before the child is able to see what is reasonable behaviour for three or four children becomes impossible with a group of forty. The aim must be to share the responsibility of the discipline of the group with the group itself and let the children develop a sense of right and wrong and correct behaviour in varying situations.

The role of the teacher in providing children with security, affection, encouragement, and opportunities for self-realisation is central to the teaching/learning process. These multi-varied but interdependent roles of the teacher are further focused on in the next chapter.

## The Teacher

**T**HE Aim of Teaching is to help the child attain his highest potentials. And perhaps the most important qualities for a teacher of this age range are a caring for the children and an enthusiasm for helping them to learn.

A teacher must be convinced that the method is worth trying. No enthusiasm will come over if the teacher is teaching something in which he sees little point. There is always some way of teaching a subject the children need which the teacher can enjoy. The desire to ensure that the children will grasp new concepts and reinforce those already learned is usually enough to persuade a teacher to try many different methods.

There is no necessity for the teacher to be convinced that the method will be a success with every child, and certainly the first way of introducing it will not appeal to every individual. No one should worry about the end before a beginning has been made. In most subjects studied at this level the end is not likely to be the same one which is envisaged at the beginning! Neither is there much point in looking round to see what "works" for other teachers nor to copy methods directly. Methods may "work" for one teacher and not another. What is more staggering, is that in my experience, what has been a resounding success with one group of children can be a dismal failure with another. These are the extremes but with experience a teacher can tell which way things are going quite early.

Methods used by others can be noted and adapted to another class, in fact, it is very difficult to be original in education. It is just a case of taking the subject to be taught to the children and introducing it in the most interesting way we know and being ready to listen and observe the children in their learning.

Work within the classroom should be flexible enough to enable the children to be taught by a variety of methods, give them a freedom to experiment and most of all, to enable the teacher to pause at any point to allow the children to go off on tangents if a fork appears in the road.

Children at the age of 7 years are beginning to come out of the "Age of Fantasy." Everything is not possible because they like to imagine it. The big question at this age is, "Is it true?" They are still very much individuals but they are coming to the stage where they will contribute to a group activity as one part of a whole rather than a group of individuals. They begin to be able to delegate with an ability to visualize what they want to find out, where they will seek their information, and how they will present it. Some children will be considerably older than 7 years when they can always manage this attitude. But most begin to be able to work in this way for at least part of the time by age seven.

Elementary Education should be a "Self Education" and it should give the children a controlled freedom and a chance to discover for themselves.

### TEACHER TRAINING

There is as much discussion and controversy over the training of teachers as over the teaching of the children. There are the same problems in both — individual differences. A group of teachers, having received an identical training, will come out and teach in a variety of ways. This is good. It is the personality of the teacher and the relationships he forms with the pupils which aids the learning experiences.

In England at the present time, we have a minimum training programme of three years at the end of which the student receives a Teachers' Certificate. Even as I have been writing this in the last few weeks, there has been a Government Report\* issued on how we could extend and improve this course. University graduates can study for a further year to receive a Diploma in Education and further courses of study can be taken for B. Ed. and M.Ed. degrees. It should be stated at this point that there are minimum requirements for a place at the Colleges to study for a Teachers' Certificate. Students have to have certain qualifications before leaving Secondary School. Whether or not these requirements should be the deciding factor for the choice of would-be teachers is an interesting topic for discussion. As tuition fees and most maintenance costs are usually paid by the student's local education authority, it can be understood why they should set a standard for the candidates. Whether or not this standard needs adjustment is, as I have said, a controversial one.

Once at College the students take a three year course in which they study the Theory and Practice of Education, specialise in one or two main subjects at their own level, and take a variety of curriculum subjects at levels in which they are going to find themselves teaching.

Although I did my own training from 1960-1963 the general plan is similar to the ones used today and I feel had a great deal to recommend it. Much of the value of my training did not become evident until I found myself in my own classroom and responsible for a group of children.

I, in my turn, wailed "Why don't they teach us to teach?" not realising that by putting us into situations where we learnt by doing, we were being prepared to take this sympathetic attitude with our children. I bitterly resented on some occasions not being given definite instructions and clear-cut texts from which to work. I had little idea of how to set about presenting a topic to others in a way that would appeal and make them anxious to explore the subject further. My lettering was appalling, the letters varied in size and shape, my drawings did not seem to conform to scale and my writing on the blackboard was disastrous! When visible from the back of the room it either ascended into the row above or plunged downwards to the right-hand corner.

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\* The James Report, 1972.

Slowly, but surely, these things were improved upon, as was my knowledge in subjects that I had never studied or had abandoned years before. Perhaps it was the way in which I discovered a new interest in these that made me understand the value of teaching children through their own natural interests. It is surprising how a child can be encouraged to develop an interest from one they start on their own. It is also surprising how much more understanding a teacher will be about the difficulties encountered by the children, if he has worked out similar projects for himself.

After an Introductory Course which lasted for 2 weeks and covered a wide range of subjects such as Mass Media, the use of museums and art galleries, how much science should be tackled with young children, the place of the children in their environment etc., we were sent out into schools for a 2-week period of Observation.

Three or four students were sent to each school and we observed classes throughout the school during the first week and studied and helped six children in one class during the second week. We were asked to write detailed studies on these children who were a cross group in ability. We were invited to accompany teachers on recess duty, attend morning assemblies and help in classroom activities. We read stories to the class to get the "feel" of a large group of children. We watched and helped, and were encouraged to write notes after school on the organisation in the classroom.

This Observation Practice over we went back to College to discuss and decide if this career was what we really wanted. The first hurdle behind us, we entered into a routine of study.

One day a week was given up to Education. The year was divided into five groups:

- A and B for Secondary Education — 11 years upwards.
- C and D for Junior Education — 7 to 11 years.
- E for Infants and Nursery.

Nowadays, most Colleges have combined Junior/Senior and Infant/Junior courses.

The Education Course was divided up to cover Child Development, Philosophy, Psychology and Techniques, and Health Education.

We started with Child Development — following the growth of the child and the family. Together with this we began detailed Child Studies on three children already known to us. Most of the work on these was done in vacation time and it was carried over three years. The co-operation of the parents was required for these and, with reports and discussions back in the Education Group, we began to see some of the similarities in age groups and solutions to the various kinds of problems encountered. The roles of friends and various relations of the children became evident. Individual students found different ways of presenting the work on these studies, e.g. some followed the Physical Growth of the child from birth to present time, and then the Intellectual, Social and Emotional Growth. Others found it easier to consider all these aspects of development through the different

age groups:

- i) 0-2 years
- ii) 2-5 years
- iii) 5-7 years
- iv) 7-11 years
- v) 11+ years

Photographs helped to illustrate these studies and we used the information we gathered to help study play materials, learning habits, etc.

We studied the Great Educators and their philosophies. I cannot remember being encouraged to follow anyone in particular, but their ideas were offered for us to take what we could. These studies were studied in groups and each group studied different philosophers and reported the more important findings back to the class as a whole.

We considered our aims as teachers, learned about the individual differences in children, their needs, interests and abilities. Much of our study of children was at first hand. We invited classes into College to work in the Art and Drama Departments; we went out into shops, parks, buses and trains to listen to and watch them. During this first year we visited schools with a tutor who would take a lesson for us to observe. We would go over the preparation of this lesson as a group and discuss it afterwards.

We learned about Backwardness, Maladjustment and Discipline. We visited schools for Physically and Mentally Handicapped Children.

In Health Education, which we studied once a week throughout our course, we followed rules of good health for ourselves and the children in our care. We learned details of diet, ventilation and cleanliness and discussed ways of teaching these things to children. We also learned to recognise the common diseases in young children and how to render first-aid..

At the same time we studied a subject at our own level. This was taken for one day a week and was intended for us to keep up with our practice in studying and much of this took the form of research. There was an examination or assessment in this subject which accounted for nearly a third of our final result.

The rest of our time was devoted to Curriculum Subjects for the Junior and Infant departments. Knowing that classes in the Primary School are usually self-contained, the teachers have to be prepared to take all subjects.

All these subjects were studied in two sections:

- 1) The reason for the subject being in the school curriculum and some of the history behind it.
- 2) The actual teaching of the subject. This meant that the students had to go right back and learn some subjects from the beginning.

We soon learned to gather materials which would be useful and which subjects could be used with plenty of individual activities. Emphasis was made to encourage us to notice how teaching points can be made from careful observation

of the children. For example, one day while I was observing a Kindergarten class, a beetle ran across the floor. The class had been collecting pictures illustrating different numbers. They had been talking about "6" on the previous day. The children were delighted at this "6-legged" visitor. Drawings of beetles were made and groups of 6 counted in the way of "legs."

We found useful activities which can be used to fill in small gaps in a day such as:

1. Making a Weather Chart.
2. Telling Time.
3. Games for Multiplication Tables.
4. Stories of famous People.
5. Making Mathematical Shapes.
6. Discussing a Newspaper Headline.
7. Making "old" maps and burying treasure which can be found by following written clues. Children can then exchange their maps and clues.

In Art and Craft we took a course in Painting, Needlework, Spinning, Weaving and Pottery. These were the basic subjects studied but we also experimented with dying, the use of wax-resist and puppet making. We tried many techniques, using natural materials for dying and weaving. Much of what we made in these courses was saved as examples to use in our work with children.

In Discovery, combined with Natural History and Science, we followed various topics and used equipment for our experiments which we knew we could find in any classroom, e.g. cheese cartons, air-tight tins, plastic tubing, candles. It always had to be taken into consideration that many classrooms would have no power-points or a water faucet.

In English we started by learning to appreciate our own language. We were given wide reading lists and compared and contrasted works by a variety of writers. We gathered childrens' work and started collections of work which we liked and considered suitable for work with children. We tried them out and discussed reactions with our group members. We visited libraries to find out which books were most popular with different age-groups. We acted out various situations in Drama and learned the use of blocks, lights and other equipment. We devised reading games to encourage children to take an interest in what they were reading and ways for them to discuss what they had and had not enjoyed. We knew that making children write book reports or answer questions after reading a book was no incentive to read.

We looked more carefully at the construction of our language so that we could more easily recognise the stumbling blocks children find in learning to read and write.

In Environmental Studies we combined Geography and History and worked in groups. We were taught that children learn best if they are taken from the "known to the unknown." For example, instead of learning about Coffee in Brazil and Wheat in Canada, it is best to start with a Breakfast Table and trace the Coffee and Cereal back through the factory to their origins. I don't think that this

method is so essential now that television is so much a part of the children's lives. Smaller children obviously learn more easily if the subject is something close to their own experience. Much geographical and historical work can be done in the environment of the school.

They can make maps of the classroom, the school, the area. They can trace their routes to school, learn map symbols and fix positions. They can study the history and development of transport starting with the method they use to get to and from school. They can study the industries of the area, often with first-hand knowledge from their parents who work in them.

In Mathematics we started by learning early concepts. This was fascinating. To most of us, the early concepts were things which had been learned so long ago we had forgotten the time we didn't know them! We really had to re-learn and be prepared to see several ways of working towards the answer to a problem. It is important to see that children may start from several points towards solving a problem. It is hard to look back and see that there is a point before understanding notation. It takes time to learn how to present children with a variety of materials to aid their understanding of basic mathematical concepts. We learned the value of estimation to check validity of answers found. Children usually have to be made aware of this kind of checking and there appears to be a maturity factor here. It only becomes apparent to children at a certain stage of their development. In Mathematics, more than any other subject in the Junior School, the intellectual development of each child shows. It soon becomes clear that classes cannot be taught the same concepts at the same time. Just by the stage of his understanding, each child demands an individualised program.

In Music, everyone learned to play an instrument and even the least musical amongst us learned rhythm and ways to make music. We worked individually and in groups and studied the work of many composers and styles in music. Particularly we studied the work of Carl Orff and his method of teaching with the emphasis on rhythm.

During all these courses we were encouraged to make visual aids for use in school to help with presentation of work. There was a compulsory six-week course in Penmanship. We learned to use several kinds of pen and many styles of lettering and first and foremost, to write on the blackboard.

At the end of that first year we had a month of teaching practice. Two weeks before the start of the practice we spent three days with the Class Teacher in the classroom. We could talk to the children, find out what work they had done and what the teacher would like to do. We were expected to take the class for all but an hour a day and it was important to be organized before we began. It was expected that the classroom walls would reflect the work we were doing with the class so visual aids had to be made and we were expected to mount and label the children's work.

The rest of that week and the whole of the next week was free from lectures. It was expected that we should see a member of faculty from every department to discuss our general aims for the teaching of that subject during the practice. The rest of the time was spent doing research, making aids and collecting materials.

Every student was advised to have a book to read to the class. Children love being read to and a good story holds a class together. The last half-hour of the day is well spent on story. Young children enjoy folk-tales and animal stories. Six and seven year olds begin to enjoy a story read in installments, and older children enjoy a book read aloud which would probably be too advanced for them to read to themselves. This is an admirable way for widening the children's vocabulary and experience. This is also something which can be a shared enjoyment. Once a story is started an extra few minutes can be given to it as a treat at odd times during the day, and on Teaching Practice, it is useful to have a book to turn to if it becomes evident that it is time to change the activity.

Each year of school and college in England is divided into three terms.

- i) Autumn Term      September - December
- ii) Spring Term      January - Easter
- iii) Summer Term      Easter - July

During the fifth term we did another 4-week Teaching Practice and a 6-week Practice in the eighth term. In the sixth term, the three days of work on Curriculum subjects were left open for the study of three subjects of our own choice. Most students chose subjects in which they felt they had "gaps" although quite often one choice was made for enjoyment.

The last year in College was devoted to twice as much study in Education and Main Subject. There were several short courses on such things as Our Culture in a Western Civilisation and time given for visits to Museums, Art Galleries, Exhibitions and other Places of Interest. We were encouraged to make use of the departments of arts and science in the evenings, to make apparatus and carry out experiments in subjects we could use in school.

We met in Tutorial Groups once a week and discussed our aims and principles. Hints were given on handling classes and understanding individuals. Much of our learning from these groups came from each other. Much of our preparation for work in school was done in groups. We shared our resources and helped each other with the execution of ideas.

One thing of which we all became convinced, was the value of the use of a variety of methods in each class. We learned to develop our own atmosphere in a classroom. We were encouraged to use our own methods, even on a short teaching practice. We soon learned that children are quick to pick up catch phrases, mannerisms, repetitions and accents. Speech is an important aid and the volume must be varied. The opportunity for change of activity must be given often. Some children's concentration span is limited, but it tends to last longer when the child is working on an activity of his choice. There must be a chance of varied activity so that the children have the opportunity for some "listening" and some "doing." Too many instructions at one time are a mistake, particularly with the younger ones.

Everything presented to the children by the teacher should be of high quality. A teacher should never subject the children to "second-best". Work which is to be

displayed should be mounted with care taken in the colours and edging. The children appreciate their work being displayed and it encourages them to have their work recognised in this way. It also teaches keener observation as they will watch the walls for their own work and will do their best to read and look for their own and that of others in the class. It is important that *everyone* should have something displayed, however small. It is more difficult for some children than others to produce work suitable for display but something can usually be found. Even so, it must be worthy of the child because the value of having work on the wall would be lost if the child could not take pride in it.

Values such as these are continually discussed not only during teacher training but by practising teachers, both informally in the Faculty Room and on more formal occasions, in Faculty meetings and in Teachers' Centres. Method is constantly changing to meet the needs of the individual and it is often through discussions both with children and adults that these needs become evident.

## TIME SPENT ON SUBJECTS IN TEACHER TRAINING

This is only a general guide — it varies slightly from College to College.

	1st YEAR			2nd YEAR			3rd YEAR		
	1st Term	2nd Term	3rd Term	1st Term	2nd Term	3rd Term	1st Term	2nd Term	3rd Term
Theory of Education	✓	✓	✓	✓	✓	✓	✓	✓	✓
Health Education	✓	✓	✓	✓	✓	✓	✓	✓	✓
Main Subject	✓	✓	✓	✓	✓	✓	✓	✓	✓
English	✓	✓	✓	✓	✓	X	—	—	—
Mathematics	✓	✓	✓	✓	✓	—	—	—	—
Environmental Studies	✓	✓	✓	✓	✓	X	—	—	—
Discovery	✓	✓	✓	✓	✓	—	—	—	—
Art and Craft	✓	✓	✓	✓	✓	X	—	—	—
P.E. Movements & Games	✓	✓	✓	✓	✓	✓	✓	✓	✓
Religious Education	✓	✓	✓	✓	✓	—	—	—	—
Music	✓	✓	✓	✓	✓	—	—	—	—
Practice of Education	✓	—	✓	—	✓	—	✓	—	—

x = Choice of 3 Curriculum subjects

Main Course              One day a week in 1st and 2nd year.  
 Theory of Education    Two days a week in 3rd year except when on Teaching Practice.

Time was spent in the 3rd year on General Courses on a wide variety of subjects. Now most Colleges send students into school for half a term at a time — this is sometimes 7 weeks each year.

# Four

## The Place of The Individual in The Classroom and The School

**SCHOOL** is the first taste most children have of the world outside the home, the first real encounter with "a community."

Primary School Education is divided into three sections:

- i) Nursery Education
- ii) Infant Education
- iii) Junior Education

	<u>Age of Child</u>	<u>Time Spent in School</u>
Nursery School	3-5 years	(part-time)
Infant School	5-7 years compulsory	(7-9 terms)
Junior School	7-11 years	(4 years)

Some children have the opportunity to attend Nursery School or Play Groups before entering school at the age of 5 years. There is much discussion at this time on how we can make Nursery Education available to more children as it serves a need in linking home with school and is usually for only a part of the day that the child is separated from home. In a Nursery School setting the child has more chance of experimenting with a wide range of materials, learning to share and be one of a group, widening his vocabulary and developing other means of self-expression.

The recognised system of entry into full-time education in the United Kingdom is at four monthly intervals (each term). The children are required to begin school on the first day of the term after they are five years old. This varies slightly from area to area. Some schools admit children at the beginning of the term or half term in which they have their fifth birthdays and in some, including the one in which I teach, the children are admitted on the Monday after their fifth birthday. The Infant School takes care of them until they are seven years old. They are then transferred into the Junior School in the September following their seventh birthdays.

The disadvantages of this are obvious. The time spent in the Infant School can vary up to two terms, according to when the child's birthday falls during the school year.

Month of Birth	1st Year		2nd Year		3rd Year	
Sept./Dec.	✓	✓	✓	✓	✓	✓
Jan./April		✓	✓	✓	✓	✓
May/August		✓	✓	✓	✓	✓

Some children are in the Infant School for 8 to 9 terms, whilst others have only 6 to 7 terms.

It is the younger and therefore often less mature child who spends less time in the Infant School. Some of our Primary Schools are still divided into an Infant School and a Junior School, housed in different buildings with different Head Teachers. This means that the child has to make a complete "break" at the age of 7 years. Although he will transfer with other children who are known to him, he will meet new teachers, a new Head Teacher, and a new system in a building which is strange to him. Most schools do all they can to make this transfer as easy as possible. Infants are invited into the Junior School to watch plays and concerts and to see work being done by older children in their classrooms. Teachers who will teach the new Juniors visit them in their Infant classrooms and much talking is done on what goes on in the Junior Department, so that the children look forward to climbing on up the "Education Ladder."

This kind of gradual "easing in" is also done in a school such as ours when "going up into the Juniors" can mean a move into the next-door classroom. Much of the easing is done by the children themselves. Many of them have brothers or sisters or friends in higher classes and in a school where Infants and Juniors are under one roof there is much free-flow from one classroom to another. Children are encouraged to travel around the school with messages. Much is done during the first years to help them gain confidence to meet and tackle problems without fearing failure. Children are always given warning of a change of environment or routine when they first come into school. When they are new to school life, some of the more adventuresome like to explore the school and tackle new activities. Many more need persuasion to try anything new or to accept another classroom or teacher other than their own. Ideally, the Primary School is one department and if the building allows, much merging of age groups can take place at the 6, 7 and 8 year old level. Year groups tend to come together after this stage and provision is usually made for this.

The Infant School day finishes thirty minutes earlier than the Junior one and Infants will often linger to watch Juniors at Games, lessons or, in an open-plan school, any other activity in progress. The smaller children are never driven from the premises but as many of the younger ones are met by parents this limits the numbers who are able to linger. Some Infant children join older brothers and sisters for Storytime which usually takes place during the last half-hour in the afternoon. Not all Infants are able to do this as there would not be room for them in the classrooms and anyway most of them are collected from school, but if children live a long way from school it is convenient for them to wait until the older children can accompany them home.

Another way in which children become familiar with other teachers, is when their own teacher is absent from school. Few authorities can provide supply teachers unless a long absence is expected. Usually, in temporary absence, another member of staff who may have a student teacher, will take the class, or the children are "split up." This means that the children are divided into small groups and sent to other classrooms. Many children — those acting as hosts, and guests, enjoy this diversion from normal routine, but it can be trying for a teacher who has limited space in the classroom.

A delightful story emerged from this kind of situation in the early part of my career. A teacher of the five year olds was off school for the day and the Head Mistress took the class for the morning. Knowing that she would be busy during the afternoon she said, "Hurry in this afternoon because I'll have to split you up." Before the afternoon session there was a parent on the telephone explaining that her small son could not be persuaded to come to the school as he was convinced that he was going to be cut up! It is so hard to remember to put these things in several different ways to a group of children to ensure that everyone really understands what is happening.

Once a child is registered in a school at the age of 5 he will remain on the registers of that school until he is transferred to another in the event of the family moving to another district. Attendance is taken at each morning and afternoon session, but the children do not have to be registered at the beginning of each year.

Children in the Infant School are often vertically grouped for at least part of their time there. One of the reasons for this type of grouping is to help cope with the termly admissions. New children arriving at school need a great deal of attention. Most have come from a home situation where they have had their mother's full-time attention. When the class covers an age-range of 2 or even 3 years, the new children can be absorbed more easily. The time of a teacher can be divided between the new children who need much of it at first, and the older children who have very different demands. There is no "holding back" of bright children in this system and slower older children can "help" the younger children and be learning themselves without any feeling of being a failure.

The organisation is easier for a teacher with this method as the older children "teach" the new ones. In many schools, including my own, new children are admitted one at a time and not at the very beginning of the morning. This means that class activities are already in progress when the child arrives and parents are invited into the classroom to see the child settled. Some parents prefer to leave immediately and others sometimes need encouragement to go! As far as possible the teacher leaves this decision to the parents who know the child best. The parents and child are invited into school before the day the child is due to start and many accept this invitation. The child then becomes familiar with the teacher and building and is not led into an unknown situation on the first morning.

In the Junior School, the children's spread of ability widens and there is more need to work in age groups. There will always be some children who are immature

in the group and those who are more advanced than most of the children with whom they are working. Nevertheless dividing lines must be drawn, usually because of the buildings in which we find ourselves working. But also the children need the security of being part of a constant unit of some sort. With individualised teaching, no child's security need be threatened since none need have fear of being "held back."

In most schools the children are promoted at the end of each year and academic standards are not mentioned in connection with this. Grades are not usually put on work or report cards given.

Children in Primary Schools are divided in many ways. Often the method of division is decided because of the number of children in the school. If a school is small, then groups of different ages have to be pulled together and it is difficult to know on what qualifications to group the children.

Many schools have a two-class entry which means the numbers of children entering per year will fill two classes. Classes are recommended to contain not more than 35 children but, unfortunately, there are still many of over 40.

In the past, Junior Schools were "streamed" according to ability. The "A" stream of "bright" children and the "B" stream working at a slower rate. In some schools the differences between these groups is not very marked, but in some the discipline problems and poor attitudes of the "B" stream gave rise to concern. The less able children became dis-spirited and had a poor self-image. Most schools now adopt a "non-streaming" policy if the school has a "two-class" entry. The children are enrolled alternately into the first classes as they arrive, to keep the numbers as equal as possible. Then they stay in these groups throughout their time in school. If they have to be re-arranged upon transfer to the Junior Department, because they have been grouped in some other way, e.g. vertically streamed in the Infants, they are divided to give both classes evenly balanced groups of children.

Children should not be grouped according to ability within the class. If they are, the whole objective of non-streaming is defeated.

In my own classes, the children sit in groups of four or six. Larger groups tend to be too large for discussions and production of combined work. Each group contains a good leader, a good artist and one of the less able children. This ensures that when group efforts are produced, at least one child can read instructions and start the others off on tracking down information. The finished products all have a chance of being of good standard. If the children are grouped according to ability, the poorer children are always ashamed of their efforts and soon give up trying.

The bright children raise the standards of the poorer children (they encourage them so that the group is not let down). Sometimes they need help in developing this attitude and sometime they have to be restrained from helping too much! Some children genuinely love to help others but they tend to overpower the less able child so that he has no chance to help himself. Sometimes the children like to "help" so much that their own work is neglected. Usually, a happy medium can be found.

The lazy ones are soon made to "toe the line" by their groups. By splitting up the less able children they become part of a group which produces work in which they can take some pride. There are advantages too for the brighter children. They are able to set themselves high standards and also take on responsibility for themselves and others. With help they can appreciate the difficulties experienced by the less able and learn to encourage their "strengths" and guide them over their weaknesses.

Of all the things learnt at this early stage it is the value of learning with the children and discovering new ways of working methods which is of lasting importance. Using many methods and numbers of groups it is impossible to prepare fully or to even know where discussions may lead on any one day. The teacher cannot possibly be an authority on every subject in which the children are likely to show an interest. It is important that the children should understand this and come to regard the teacher not as an immediate source of information but as a guide to resource material.

I mention at this point, mistakes, opinions and variations on facts. Teachers make mistakes and should not be afraid to admit them. By being honest about them and training the children to be polite about pointing them out, a working relationship can be maintained and the teacher will not feel that he has lost his position in front of the class.

Much of what children will want to discuss will be a matter of opinion. Many children imitate their ideas from parents or friends and the teacher can play a large part in teaching children to think round ideas for themselves. It is an adult attitude to be able to have one idea and yet see those of others, and it is easy for a teacher to impose his own ideas onto the children.

At the Junior stage, children tend to take anything a teacher says with conviction to be word of law and often they will agree with it without thinking for themselves. In any discussion on current affairs children tend to repeat the views of their parents and the teacher often has to put forward the other point of view.

In using a wide range of reference material the children will come across variations on the facts of any one subject and they will need help to understand that accuracy in some subjects is very difficult. For example:

the exact distance of planets from the sun.

the number of a given animal species still living in Africa.

This situation is not helped by some books written for children, rounding up numbers to make them easier to understand.

Some books used by children in school are simply not up-to-date with scientific information and children must learn to look at the date of publication in reading books.

The understanding of this is all part of learning and the children can learn much through the discovery of all these problems.

There will always be discussion on the methods of grouping throughout the Primary School. Some teachers favour one way, others prefer another. There will always be the possibility of some children who might have fared better if grouped

in another way.

The Plowden Committee, when looking into this subject for the Report, issued in 1966, came to the conclusions that — "Schools which treat children individually will accept unstreaming throughout the whole school when such an organisation is established with conviction and put into effect with skill, it produces a happy school and an atmosphere conducive to learning."

The report goes on to point out that it is impossible to assess accurately the potential of children of primary school age. "The younger the children, the greater the inaccuracy is bound to be."

Having stressed the social benefits of grouping children of varying academic abilities it must be pointed out that there are difficulties. There are advantages and disadvantages in streaming and not streaming. I have taught 'A' stream (bright) children, mixed age groups (bright 8-year olds with less bright 9-year olds) and unstreamed classes.

In the U.S.A. I taught two groups of children, one containing the High/High group and the Low/Low group and the other with the High and Low groups.

Children in streamed classes can be taught more easily but often not so satisfactorily. There is a tendency to set the children the same work and one standard is then set for all, whereas it can be seen immediately that children of mixed ability are going to have to be treated individually. No one likes to lose his identity as a person in his own right and it is so much more satisfactory to be treated as an individual. Surely there can be no doubt that to teach individually is the ideal method to be used. But, arguments come flooding in that no teacher can teach over 40 children individually. There is an easy answer — they can and do! But in many different ways.

In the next chapter I hope to show how this is possible, but, for the moment, let it be said that perhaps "individual learning" takes place rather than "individual teaching." Teaching implies that what is learnt by the children is being directed by the teacher, and much of what is learnt in school comes from sources other than the teacher. With careful observation by a teacher who can judge when to stand back and when to step in, the children can be learning all the time; but not necessarily what the teacher has decided will be learnt.

I have already said how important I think it is that the individual should feel a self-assurance when coming into school and taking his place in the class. For some children this seems to take no time at all, for others it takes much longer to develop. Once the child is happy in the classroom, he can be helped to become aware that his class is only a part of the whole school community; that his family is only one of many in his community.

In Britain we have a system where children gather for an Assembly every day. Originally this Assembly was for the act of worship but the whole aspect of Assemblies has widened considerably. It is a time where *all* the children come together.

I did not appreciate the real value of these gatherings until I was away from them for a year. In England it is still laid down (Education Act, 1944) that all

children should receive Religious Education in school unless parents request the withdrawal of their children during such lessons. Owing to the wide variety of churches attended by children in any one state school, the religious aspects of these Assemblies are very general in their outline.

I am aware of the fact that Religion is not taught in schools in the U.S.A. but I know some schools hold assemblies and I am sure that anyone with experience with assemblies will agree that they can be of tremendous value.

I will outline some of the different ways in which we work on these assemblies.

Firstly, however free-flowing the school from department to department, separate assemblies for Infants and Juniors are usually held. This is for two reasons:

- i) The age range from 5-11 years is rather a wide one to consider when preparing material to hold the interest of all, although there are occasions when both groups come together for an assembly and delight in sharing them.
- ii) On the whole, the attention span of the 5-7 year olds is shorter than that of the older children. They like to join in and contribute to whatever subject is under discussion — rhetorical questions are unknown to them! Also, when the 5-year olds join the group, it is easier for them to come into a group where there is only an age spread of two years. The children are of similar size and can gradually "join in" the large group without it seeming an enormous body of people.

At the end of each year the older children in the Infant Department are invited to join the Junior Assemblies. They then come into the larger group from a familiar classroom, accompanied by their familiar teacher. This is a new experience for them and with some security already established, one which is usually enjoyed. This experience is also valuable in the way it familiarizes these children with an activity which will part of the daily routine when they return to school in September. In fact, this part of the day will be the only known part of each day on their entry into the Junior Department.

Although, part of the Assembly is devoted to one or two hymns and short prayers, the pattern for the rest of the 30-35 minutes is varied.

The Principal (Headmaster) usually takes Assemblies but on one day a week another member of staff takes over and often the children take them themselves.

There is usually a theme and this can be a starting point for much interest and work which develops at different levels throughout the school.

The main aim of this time when the children and staff gather together (first thing in the morning for the Junior and last thing in the morning for the Infants) is to develop a spirit of "togetherness." The children see the "whole" school and the other members of staff.

I must add here that I realise that it is an impossibility to gather the "whole" school together in large establishments, and this is one of the things which I dislike about them. They have a distinct advantage over smaller schools when they can afford equipment which is too costly and space consuming for smaller ones. However, for knowing one another and being recognised as individuals, a small

child must feel very lost as one of such a large group.

Because the Assembly programme has to reach children of many levels of age and ability, it needs to be divided up so that at least part of it enables participation by the children (singing is a good outlet for energy!)

This is the time when anything of interest or importance can be put to the children. Such things as being more careful about the amount of litter dropped on the playground seems to have more meaning to the children when they are spoken to directly by the Principal, than when notices are put up or a note sent round to classes for the Class Teacher to read out. All kinds of small problems can be solved when the children are together. Important lost property (not the odd glove or hat) can often be traced (we once found a pet cat in this way); the importance of road safety can be emphasised, or children can be encouraged to collect goods for the Fete and Gala, clothes for Charity Organisations or simply jam jars, newspapers and other household "rubbish" which is so useful in school.

This time can also be used to draw the attention of the children to games with other schools, displays of work or interest mounted round the school, or reports on events and activities of members of the school.

This is a time when special achievements can be recognised and applauded. Sports reports are given in Assembly — written and given by the children. These can be anything from Chess Matches and City League football matches to the Match of the Year Football Game between the two first year classes of 7-year olds. These often warrant the teams being brought to the front of the Assembly Hall for their share in the glory. One of the most memorable reports was given by the Staff (a corporate effort!) after the Staff v. School Football Match last year. The Janitor was referee and the game, which was played 10 minutes each way, provided entertainment for the whole school, especially as many women members of the Staff Team weren't sure of the rules and the Fancy Dress of this team hampered true athletic talent. (That was the excuse given!)

Swimming plays an important part in the School timetable and Certificates and Badges are given as awards. Much is made of these achievements as we live near a dangerous river and most families are within easy reach of the sea for day trips and holidays. All the children in our Junior School Department have a swimming lesson once a week and the first certificate is awarded to the child when he can cross the width of the Learners' Pool without stopping — a distance of about 25 feet. Other certificates are given for various distances with good style, and greater distances with the importance attached to the aspect of survival.

### SWIMMING CERTIFICATES

#### LEARNERS'

Candidates shall swim 20 yards using one of the following strokes: Breast Stroke, Front Crawl, Back Crawl or English Back Stroke.

#### ELEMENTARY

Candidates shall swim:

- a) 50 yards Breast Stroke or 50 yards Front Crawl and
- b) 20 yards Back Crawl or 20 yards English Back Stroke.

### INTERMEDIATE

Candidates shall swim three of these strokes:

- a) Front Crawl;
- b) Breast Stroke;
- c) Back Stroke or English Back Stroke;
- d) Butterfly with either Dolphin or adapted Breast Stroke Leg Kick.

Two of these strokes shall be swum for a distance of 50 yards each and one for a distance of 25 yards. Candidates must decide for themselves which stroke they will swim at each distance.

### PROFICIENCY

Three strokes to be attempted:

- a) Front Crawl;
- b) Breast Stroke;
- c) Back Crawl or English Back Stroke;
- d) Butterfly with either Dolphin or adapted Breast Stroke Leg Kick.

Candidates shall swim one stroke for a distance of 100 yards, one for 75 yards and one for 50 yards. Candidates must decide for themselves which stroke they will swim at each distance.

### ADVANCED

Four strokes to be attempted:

- a) Front Crawl;
- b) Breast Stroke;
- c) Back Crawl or English Back Stroke;
- d) Butterfly with either Dolphin or adapted Breast Stroke Leg Kick.

Candidates shall swim one stroke for a distance of 200 yards, one for 100 yards, one for 75 yards and one for 20 yards.

Candidates must perform a correct start and turn for two of the strokes, *other than* for the stroke being used when swimming the 20 yards distance.

Candidates must decide for themselves which stroke they will swim at each distance and for which two strokes they will perform a correct start and turn.

All the awards for these achievements are presented in Assembly.

On one morning each month we have an Honours List. The list is made in a book which is passed round the members of the staff. Each member of staff lists four or five children in the class who have made an outstanding effort. We try to base these on non-academic achievements. For example:

Andrew — for the amount of time he spent helping his friend with a difficult model.

Susan — for spending a recess clearing out the paint trays.

Peter — for taking home the rabbit for the holiday.

Thought is given to these lists and it is likely that Susan is a child who often fails to clear up her own materials and the clearing of the paint trays marks a stage of development in self-discipline.

The children on the list are called out in front of the school and applauded for their efforts. We try to praise as many children as possible in this way and on some occasions a whole class appears on the Honours List for a group effort.

In one school I was in this was carried a stage further. Each child was a member of one of six teams throughout their time in school. Each team was represented by a different colour and named after a Planet:

Dark blue — Pluto

Yellow — Jupiter

Points were awarded to children for academic and non-academic achievements in the class during each week and these were totalled and entered each Friday. Children who appeared on the Honours List received an extra five points. The school gathered at the end of Friday afternoons and the children on the Honours List presented. The total points for each team in each class were announced and then the total for each team throughout the school. At one end of the Hall were wooden rockets and a series of notches up the wall to round wooden discs. These were coloured and represented the different planets. The rockets were raised each week — 6 notches for the winning team, 5 for the next, etc. This meant that every rocket was moved and the team whose rocket reached the planet first won a cup and the proceedings began again. No individual names were read out (except those on the Honours List) but *all* members of the winning team stood up to be acknowledged. This meant that children who found difficulty in scoring many points had the satisfaction of belonging to a leading team and hopefully were encouraged to make more effort rather than to sit back and become disheartened. Sometimes a team which was not doing well and then made an improvement was acknowledged for their effort, and there was always tremendous excitement when rockets overtook each other.

This type of team spirit can be developed in individual classrooms. Teachers can devise methods which particularly interest their own groups of children. Most children in the 7 to 11 age range respond to a certain amount of competition.

Another morning, about twice a year, we devote the main part of the Assembly to what we call "Lovely Things." This is a display of Art and Craft collected from every class, mounted and displayed in the Hall. These are chosen for the variety of materials used and the Principal explains them and often invites the children who have created the pictures and models to say something about them. This is an opportunity for the children to speak in front of a large group and helps them to develop self-confidence. The display stays until the next one is prepared. In our school these displays alternate between Infants and Juniors.

On other mornings time is spent on many subjects. We have followed the climbers to the Summit of Everest, the Kon-Tiki raft across the Pacific, Sir Francis Chichester round the World, Scott across the Antarctic, Astronauts to the Moon, and, at the moment, with the Tutankhamun Treasures in the British

Museum in London, we are studying the History of the Pyramids in Egypt.

Many of the subjects rise quite naturally from Current Events. When Sir Francis Chichester set off in his small boat "Gipsy Moth" our Principal had just returned from a holiday on the South Coast and had seen some of the preparations being made on the boat. He described what he had seen to the children and immediately aroused their interest, from then on, they came with information, newspaper cuttings and pictures. We mounted a map on a bulletin board in the corridor and charted the voyage. There were times when we wondered if Sir Francis would ever get to Australia and we knew how hard it was going to be for the children if there was any kind of disaster. When at last the end seemed to be in sight, we heard the news that Sir Francis would only stay in Australia for as long as it would take to repair his craft and then he would set off to complete a round-the-world journey. This was more than we could take. We opted out of the tensions of a detailed study of the return voyage and contented ourselves with periodic reports.

The same problems were found when following the Apollo Missions, particularly during the return flight of Apollo 13, but the children became so absorbed in these events when we can follow them as they are happening that many children are eager to contribute information on such occasions. So much more can come from studying these events as they happen rather than looking at them as a complete story afterwards. I can remember when there was such a mystery over the name of the new Cunard Liner which Her Majesty Queen Elizabeth II was to name. The children became intrigued and we listened to the launching ceremony on the radio to discover that the name was Q.E. II. Much discussion and follow-up work came on the shipyards on the River Clyde, launching ceremonies, etc. which I am sure would not have come if we had not taken an interest in the subject until after the ceremony was over.

It is often a Topic being studied by a class which gives rise to displays and information which the children want to share with the rest of the school. The staff are always happy for children to see what is being done by children older and younger than their own classes and the children are usually whole-hearted in their appreciation of the other children's work, especially the older of the younger.

At Christmas, one of our first year classes studied "Christmas Round the World" and learned carols from ten different countries. They took Assembly for us one morning. Some children had found out about Christmas Customs, others about National Costumes, some had even found costumes to dress in. On that morning at the end of term, everyone of the forty-four members of the class took part. They sang, read some of their own factual and imaginative writing and acted. At one point when a Scandinavian custom of taking hot drinks and pastries to the school teacher was being described, children prepared coffee and biscuits for the staff. We were most impressed and only sorry when there was no repeat performance for the custom of serving mulled wine and mince tarts.

Another Assembly taken by children was on the subject of sport. The group of ten-year olds who took this, dressed themselves in sports kit for the different

sports played at school, (cricket, football, netball and rounders) they acted in a play which they had made up themselves showing team spirit and sportsmanship. They read creative writing on sport, told about sportsmen who were of particular interest to them, and made up prayers to give thanks for the facilities they are able to enjoy for their sport.

At another Class Assembly the children sang a hymn for which the words and music had been composed by one member of the class.

A great deal of learning comes out of presenting assemblies like these and the children in the body of the Hall are always so receptive to anything delivered by other children.

We find that often topics used in assemblies grow in ways not thought of when they are first introduced. Our curriculum is flexible and it is possible for staff and/or children to pick up the subject in an Assembly to develop in the class room. Sometimes a subject which seems good does not go as well as expected. We once adopted two ducks at the Wild Fowl Trust belonging to Peter Scott, on the River Severn. This is a scheme where wild fowl can be adopted by any person for the cost of about 75¢. When these wild fowl are ringed and checked the information is sent to the adopter. Great enthusiasm was shown in this. Children waited to learn what kind of ducks we had adopted, and on hearing many of them set out to discover all they could. We were then informed of their migratory habits so that maps could be prepared to plot their flights. We waited and waited to hear news but we were unlucky. After several months came the sad news that one duck had been accidentally shot by a farmer (no doubt made into a pie and eaten for dinner) and the other was never heard of again.

Poetry and descriptive writing is read several times a week and often an exciting extract from a book to "whet the appetite" of the children and encourage them to go further. Books which are in school are often presented to the school to encourage the children to look for them. New books and equipment are always shown to the school in this way and the cost given. Hopefully this helps in the way such costly items are treated.

Work of a good standard done in school is collected and often presented to the children. In this way, the whole school is aware of what is going on in other classrooms. At the same time displays are frequently mounted outside classrooms so the children can see the results of work produced by other children.

Another Assembly each month is devoted to Anniversaries. A chart for each month is mounted in the Main Corridor on which anniversaries are mounted with pictures and information. Children are able to contribute to this and there is a summing up at the end of each month. They like to answer questions in Assembly so they keep a look-out for the new dates and information which are added throughout and learn a great deal while doing so.

Apart from anything else, the children develop self-control from being in a situation where they sit on the floor for a considerable time and are obliged to be quiet. Music is played during the time when the children gather and again when they leave the Hall. The children at the school in which I teach come directly into the Hall when the bell goes to begin morning school so they filter in over a period

of time. When they leave they do so class by class.

The music varies. Sometimes we study a piece of music with a story over several days, such as 'Peter and the Wolf.' Sometimes we follow several works by one composer and some of the background of his life is given to the children. Sometimes the music is chosen for no better reason than the fact that the person taking Assembly enjoys it and wants to share it with the children. Recently I played the sound track from a film I had seen and enjoyed. After that Assembly three children came up to ask what it was because, as one put it, it was "dead good."

We have a school choir and these children sit together and lead the singing. I should mention that these 50 children have their weekly choir practice during lesson hours. With individualised teaching and flexible timetable it is reasonably convenient to excuse choir members, violin and recorder players, et cetera, during the day whenever they are required.

As well as the assemblies, we are often gathered together to share something of interest. This week it was "Pierre — the clown." He is employed by the Health Department and travels from school to school on a campaign designed to encourage Dental Hygiene. For this we had all our children from the Nursery to 4th year Juniors. Pierre — 6 ft. 4 in. tall, captured the attention of the children as soon as he walked through the door. With a two-foot long toothbrush and an outsized carrot the children were soon absorbed in learning how to look after their teeth and the Hall rang with laughter. We spent fifteen minutes listening to the constant chat of Pierre with his spontaneous repartee. He involved many children and had everyone's complete attention — each anxious to be chosen to take part. Two of the older children were invited onto the stage to juggle with apples and two of the six-year olds went up to eat candy for Pierre to inspect the after-effects on the teeth. Then they were given an apple to eat to help clean away some of the stickiness. Every child in the school received a badge to wear and an entry form for a colouring competition.

Last Wednesday we all gathered to act as an audience for a team of children representing the school in a Road Safety Competition held by the Police Force. Each school trains a team in the use of the Highway Code and the schools in the City, with the highest marks meet in semi-finals and finals which are broadcast from the local radio station.

When one of the 1st year classes was learning about the work of the Police Force, the teacher contacted the local Headquarters for information. The result of this was the offer of a three-week project. Members of the Police Force came into the school several times a week and talked to the children, showed them films and gave demonstrations. We had a frogman who demonstrated the use of his diving suit, detectives with their finger print kits, police dogs and a mounted policeman. As can be imagined, the whole school became interested, particularly when invited to make as much noise as possible around the police horse. It was on the last day of this Police visit that the Fire Service called and two weeks later we all gathered around a large Fire Engine.

From such demonstrations and references made to work going on in different classes the children are aware of subjects being studied and it is not unusual to find members of one class visiting other classes to take information they have found by chance and know will be useful to them in the work being undertaken there.

Concerts are often given in school and we try to give two each year for parents and friends. Small entertainments are often performed in classrooms with other classes acting as an audience, but twice a year we work together for a large production. One of these takes place at Christmas and another in the summer. Owing to the size of the Hall, we usually have performances on two nights. We try to involve as many children as possible and have as many activities as we can. Most of the production is done by the children themselves and we aim at a theme to link the items together.

Last summer the theme was "The Sea" and the first part of the performance contained dramatised poems, movement, verse speaking, instrumental playing and the singing of sea-shanties. After the interval the Senior Choir (9, 10 and 11-year olds) performed "Captain Noah and his Floating Zoo" — a new work for children including solo work and two and three-part singing as well as interesting percussion accompaniment. The children loved it and it was not long before the Chorus "Two by Two" was being sung around the school by staff and children alike.\* Everyone became enthusiastic and on the second night of the performance, people who had attended on the first evening crowded back into the back of the Hall to hear it again. Such was the enthusiasm that it was decided to make a long-playing record. This was an interesting experience for the children and the result something many of us will treasure for a long time to come.

Out of this venture developed another. News of "Noah" spread and a group of local 'old people' asked if the children could go to one of their meetings to entertain them. It was decided to bring the old people to school and entertain them and give them tea. The older children who were not concerned in the performance acted as hosts and hostesses and, together with the Principal, worked out a plan whereby they could take the visitors around the classrooms before going into the Hall for refreshments and the entertainment. We all enjoyed that afternoon. The old people were fascinated to come into the classrooms and it was delightful to see the old and young strolling arm in arm round the school and a group of youngsters struggling along with wheel chairs. This is an experience we hope to repeat.

In Britain school meals are subsidised by the Government. The children can take advantage of a hot lunch programme for the cost of about 30 $\frac{1}{2}$ . Many children go home for a mid-day meal if they have parents who do not work. Our lunch-break is from 12:00 to 1:25 p.m.

Usually schools have two sittings at lunch and at the present time, a member of the school staff is required to be on duty as well as a supervisor who is employed

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\* Further details in Chapter Eleven, Music.

by the School Meals Service. The children are served with a two course meal, sometimes followed by milky coffee if the milk has not been used in a custard to go with the dessert.

Roast meat and fish are served once a week, and on the other days such things as sausages, braised meat, broiled mutton, cold ham and cheese dishes. A hot dessert usually follows.

The Staff do not enjoy being on duty in the dining room, (usually the same room as the Assembly Hall and Gymnasium) but again this is a time when children are learning to be a part of a community. The system varies from school to school. The children usually lay the tables and the older often serve the younger. Some schools have 'family service' where dishes of food are served to individual tables and children serve from these; and in some they have a cafeteria-type service. In all cases the children assemble for a sitting and are dismissed from it. A certain standard of table manners is maintained.

Money for these meals is collected on a Monday morning and orders placed daily. This enables absentees to have their money refunded. In most schools the money is collected by the Class Teachers and taken to the School Secretary who not only does the Secretarial work and acts as Treasurer, is usually the only person available to render first-aid. There are few schools with a Nurse's Room.

Another shared learning experience which I feel has tremendous value is a Field Trip. These are usually taken by individual classes but on many occasions other children and sometimes parents join in. Although I shall consider the value of these again in connection with the methods of teaching various subjects in the curriculum, I think there is a place for looking at them here.

I have been on more Field Trips than I can remember, but some stay firmly in my mind, either because of remarks made by the children or because of occasions such as the one when I thought we had left a child on an Underground Train in London. (She was bending down to do up her shoe-lace!)

Again, we are fortunate in the size of our country. Nowhere is impossible for a visit. Most of our trips are half or full days, but many schools take the older Juniors on four or five day holidays. (Some Primary Schools but more Secondary Schools go abroad and the Educational Cruises are becoming more popular.) I have accompanied children on a five-day holiday to London and one in Edinburgh, Scotland, and we have had several weekend trips into walking country.

We have many places of interest within easy reach which I will go into in more detail later in connection with projects studied in class.

Infants are usually taken into the area surrounding school — a park, the post office, a dairy or even a local zoo. Older Juniors can cope with twelve-hour visits which enable us to visit historic York (73 miles) or Lincoln (30 miles) or to travel the 122 miles to London. We can visit farms, cinemas, theatres, caves, take rides on canals and we have had round trips in an aeroplane.

The value of such trips is enormous. It is obvious that the children enjoy such excursions and with a small amount of preparation a tremendous amount of work comes as a result. On Class Outings, I invariably develop a headache, spend most

of the day wondering what will happen if someone is lost or hurt, but on seeing the enthusiasm in the children's faces and experiencing the discussions and interest in follow-up work, I know my discomfort is a small price to pay.

Of course, some children are more difficult than others to handle outside a classroom situation, but a teacher soon learns to judge what type of visit is most suitable for the group. If children are used to following instructions and organising themselves and their work in the classroom, then they are unlikely to present many problems outside it.

The whole school becomes involved in any outing. Usually a bus draws up at the school gate to take the children on the trip or to deposit them at the railway station or local airport, and the other children will soon gather round. Perhaps I should point out that schools in Britain are like most houses, we have walls, fences or hedges surrounding the property and a gate which can be closed. In our school, the gates are only closed at night but the children are able to wander in and out of the building without giving rise to concern. In fact, much practical work in mathematics is done outside without any supervision and in summer, on fine days, we are able to move desks and tables outside for children working on practical activities and sometimes have the whole class out for oral lessons.

Two important factors which must be taken into consideration are:

### 1. PARENTAL CONSENT

The parents are always notified of any forthcoming activities and their permission is always required before a child is taken out of school. A refusal is not usually queried and if it is, certainly not in front of the child. Any child not accompanying the rest of the class is taken into another classroom and continues his own work or joins in an activity there.

### 2. FINANCES

If we feel that it is a difficulty in providing the money for the trip which is causing a parent to refuse a class outing for the child, we ask if they would like assistance. All children who receive free school meals are always offered assistance.

When a trip such as the aeroplane ride was arranged, several parents refused. This was an understandable reaction for two reasons:

- i) Some children had flown to Mediterranean resorts for summer holidays and parents felt that their children had had the experience of a flight and therefore they were unwilling to pay for a short trip.
- ii) For many families in this country, flying is a new venture and one of which they are still unsure.

The Average weekly Income in this country is about \$74.40. At this time (1973) the cost of a Field Trip to London costs approximately \$5.00. This includes:

Bus to the Railway Station from School

Diesel train to London

### Underground Trains

#### Admission to Museums, etc.

The 5 day holiday to London costs each child about \$31.50. The Flight (35 minutes in the air) costs \$5.00. A recent trip to a farm for my class cost each child 36¢.

If we are away over a meal time, we take a packed lunch. On the holidays, food is included in the cost.

These prices are calculated on the assumption that the rate of exchange is \$2.40 to £1.00.

Below is a list of some of the preparations which we have found make an outing easier, and some of the values we have found which come from Field Trips.

### PREPARATIONS

1. The place chosen to visit should be of interest to the group of children.
2. If at all possible, the teacher should make the visit before organising it for the children. This eliminates the worry of not knowing the estimated time of arrival, how long the children will need to look round, the location of rest-rooms, the amount of spending money which is reasonable (we try to limit this so that no child feels deprived), and, most important, the objects they should look for.
3. To have several discussions about the journey beforehand. Enthusiasm must come from the teacher and the children must know how long the journey will take. (This is important or the teacher can suffer from five minutes on a two-hour journey with "Are we nearly there?")
4. It is always necessary to have a word about courtesies to anyone who helps in the outing, e.g., bus drivers, guides, et cetera, and to walk in a way which does not inconvenience the general public. Over the years we have found three instructions invaluable:
  - i) Stay with a partner
  - ii) Never run
  - iii) Never go farther than the next intersection.

These insure that each child has someone with whom to share observations, and if they never run they do not tend to become noisy or out of control.

This ensures that the party stays together without having to stay in a 'crocodile.' (Walking two-by-two in a line.)

If there is any distance to cover by transport, it is important that the children should be occupied. They cannot be expected to sit quietly on a bus when they are excited. Work sheets, where information can be recorded, are fun to do, keep them busy and also direct their attention to the scenery around them. For younger children or poor readers, these sheets have to be carefully thought out. Pictures can be drawn of objects to be recognised by children and simple recording can take place by putting a check mark beside subjects such as traffic lights. There seems to be great delight in having counted the most!

Work sheets for older students can be more involved and often several different ones used to be prepared for different ability levels. Some children complete all of

them, others only one or two. It is sometimes wise for one set to be kept for the homeward journey. A crosswork puzzle for 9, 10 and 11 year olds is a popular homeward-bound activity. This is a time-consuming task to prepare but infinitely rewarding.

Work sheets are attached to clip boards which can be carried throughout the day. Care should be taken in the preparation of worksheets so that few direct questions appear, i.e., there are more general points to be looked out for and recorded. Direct questions lead to problems such as a group of children cornering a guide in the museum to do their work for them, or the children being so anxious to find the correct answers to particular questions that they continually fall behind the rest of the group. There is more value in open-ended questions which allow for the children to discover and record for themselves. Children tend to treat direct questions as an end in themselves and this limits the amount they can produce.

Apart from the enjoyment which can come from a day out together, this is a method of learning in a very 'open' way. The children see first-hand what is going on in the world outside school.

When back in the classroom, the children can see the point of recording what they have seen to share with others. If they have been round a historical building they are more easily able to think themselves back into the past and to better understand the inconveniences of living hundreds of years ago. The size of the buildings is real to them and distances and time span begin to have some relationship in the children's minds. Many mathematical concepts are reinforced on field trips.

A favourite activity on a day's outing is to collect transport and admission tickets, post cards and sometimes booklets. All of these are useful in making displays.

Many kinds of art work come out of field trips and many graphs can be made showing the numbers of postcards bought, the distances travelled, the amount of time taken, et cetera.

Even more came out of our school journeys to London and Edinburgh and from our stay in Youth Hostels in the country. For many this was a first taste of being away from home. The children slept in rooms in groups of four or six and the excitement on the first night was indescribable, and on the first occasion we forgot to state a time before which they must not rise! However, after this the children were too tired to be noisy at night or early risers.

It was interesting to see how capable children can be at the age of ten. I was amused on each occasion to notice how often the girls changed their clothes and how often they were to be found tidying their belongings (something most of them are not usually willing to do) and ordering from a menu at breakfast.

They had to remember the times set for starting off each day and make sure they were on time. They also had to remember to take all they needed for the day. Anything forgotten had to be done without.

At the end of each holiday the staff were exhausted, but no one doubted that the effort was worth it.

In my opinion, this type of school activity gives an opportunity of learning to live together better than any other.

## Methods of Teaching Children In a Classroom Situation

METHODS in teaching are varied and most teachers find the need to adapt methods to the children they teach and the different skills being taught.

We come back yet again to realise that the prime consideration in the job of teaching must be the individual. Different children will respond better to different methods.

Work in school should be directed to enable a child to fit in successfully and happily with his contemporaries.

Learning is inborn and instinctive. When a child begins school a parent will usually ask him what he has been doing or what he has learnt that day. The reply is invariably either "nothing" or "we played!"

The way in which most classrooms are set up these days enables children to move from one chosen activity to another and learning takes place through what the children regard as "play" experiences.

Froebel said, "Whatsoever a child begins to represent or do, he begins to understand."

Learning and play should be synonymous.

Play experiences are invaluable in the way that they provide an intermediate place between inarticulate subjective impressions and the structural language of adult communications. Play activities are rewarding and bring pleasure - work in Elementary Schools should be the same. The advantage of having an "Open Classroom" is that the teachers can adapt their methods of teaching to fit the children with whom they find themselves working at any particular time.

In most classes throughout the Infant and Junior School the children will be working at one of several activities at the same time and the teacher often finds it easier to have all the children around one table occupied at the same activity. Where ~~teaching new concepts in new subjects these children can be "dealt with"~~ at the same time. This can work well even when there is a wide range of ability amongst the children working round one table.

The rest of this chapter is divided into two sections:

1. General methods used in Infant Education (5-7 year olds.)
2. General methods used in Junior Education (7-11 year olds.)

I must add here that, apart from the odd occasions when I have found myself acting as a "supply" in an Infant Classroom, my experience with this age group is limited. I am in close contact with members of staff in the Infant Department and with the children, but I shall limit my examples to observations in one school.

Much of the method used in the Infant Department is reflected in the work

produced by Junior Children. As I have said, by individualized teaching, we try to teach each child at the stage *he has reached*, not at the stage which we think he *should have reached!*

### I. METHODS IN THE INFANT DEPARTMENT

The children come into school on the Monday after their fifth birthday which means that there is a constant flow of children being added to the group. This gives a stable atmosphere for the children arriving but does mean that the teacher is continually covering the same ground for the benefit of a new child. It also means that the children born in the summer months have a very short time in school during the first academic year.

Teachers seem to favor half-termly entry. This means six entry times during each year.

1. September
2. Late October/Early November
3. January
4. Late February/Early March
5. After Easter (Early April)
6. After Whitsun (Early June)

Children are never invited to join the class until 2 or 3 days after a holiday. This enables the teacher and members of the existing class to settle back into a routine, to enjoy a "chat" about news of the holiday and to prepare for the newcomers.

In our school we are vertically streamed for the first two years in school.

Emphasis is placed on settling the child into this new social environment. It is important that the child is happy and secure before it can be expected that learning will take place. The more mature children settle reasonably quickly but even they can need a term to be completely integrated and confident to contribute to the work in this large new unit. The quiet child who does as he is asked and appears to be settled is not always as secure as he appears.

The classroom is made a welcoming one with attractive displays and colour schemes, with plenty to absorb the interest of the child and give opportunity for practical activity.

Children do not have to seek permission to be excused from the room to go to the rest-room. New children are always given a special friend who can accompany them and help them find their way around. Often a child will be less shy of approaching another child than the teacher.

Much is done to build the children's self-confidence. Dinner money is sent to the office with children and the snacks which are served at recess are collected by them. This is an opportunity of showing trust in the children. Usually timid children are sent on such errands with more confident ones.

The teacher has to keep a careful watch on the children who appear confident and happy in the classroom as they can become worried when faced with larger groups, e.g. on the playground or in the dining-room.

As far as possible the children are treated individually in their learning experiences but groups develop from these situations. Children's natural curiosity

tends to lead them towards anything a teacher may be following with an individual. An opportunity should never be allowed to slip by when other children can be included in a learning situation. They can be invited to contribute or to observe what is happening. This is all training in logical thinking. These groups, when gathered, will be groups of individuals rather than a group working as a single unit as will develop further up the Junior School.

Whatever is put into the classroom environment should be carefully planned, although what arises from it may take a different course from that which is expected. Some of the work planned is planned in the knowledge that there will always be some who do not benefit from it. However, such things as writing techniques can be emphasised from time to time to the class as a whole and a few more will join in each time.

The teacher can be of great value in bringing together cross-sectional groups to develop an interchange of ideas. The fringe groups must be recognised and pulled in to be a part of the whole whenever possible.

There is a place in the Infant day for routine. A framework must be outlined to give the child a sense of security.

Every child should have a home base — a chair, a shelf or box for possessions — and the teacher should try to ensure that they can happily move around the room and be familiar with the places in which equipment is kept.

Any periods planned for work outside the classroom need to be suggested to the children beforehand. Some do not take readily to a change in environment and need to be prepared in advance, e.g. Physical Education in the Gym. While it is good for the children to experience a change of scene and become used to moving around the building there will always be some who are upset and unsure. In cases such as these, it is best not to force the children to do anything but observe for a while. They should not be allowed to "sit out" for too long but an observation should be made, such as:

"Next week you will be able to join in" — so that they have time to prepare themselves and accept the inevitable.

The day in the Infant Classroom is divided up into times when children are active and free moving and times when they are drawn together for discussions and teacher directed activities. Children are constantly urged forward. They are encouraged to "have a go" at all the activities and persuaded that they are never as hard as they look. Most of the materials presented to the children are such that the child can "play" with them without a measured success or failure. Only when they become familiar with the materials are they able to perform certain skills. The learning experience is that which can be gained when "finding out" by using the materials and concluding facts from the experiments, *not* performing tasks to prove a fact already known.

#### ACTIVITIES USUALLY AVAILABLE TO THE CHILDREN

Paint — some powder which has to be mixed, some already mixed

Collage materials (scrap fabric)

Boxes for modelling

Paste  
Clay, Plasticine, etc.  
Sewing  
Number Apparatus  
Puzzles (e.g., jig-saws, mosaics, shape blocks, etc.)  
Pencils and crayons  
Books  
Dressing-up box  
House Corner  
Large buildings blocks and other constructional toys  
Sand  
Water

Not all of these materials are available every day. Some activities need more teacher participation than others, so these (e.g. sewing) need to be interspersed with others at which the children can organise themselves more easily.

The materials are put out before most children arrive. As the children come into the classroom as soon as they arrive at school the early comers are able to assist in the setting out. As soon as possible the children are given practice in reading, writing and counting every day. Standards must be set from the very beginning and the work produced by the children should always be of their best.

Once the activities are set out the children disperse amongst them. They carry on with what they are doing while the register is taken, but during this time there must be quiet for the children to hear their names. The number of dinners to be ordered is checked. This quiet time is the beginning of a discipline which is always necessary in group organisation.

Children under 7 years of age are provided with free milk. This is brought into the classroom and the children are given free access to it. This is another situation where trust can be put upon the individual. They are trusted to take only one bottle each!

Help is given by the children in working out the number of children present and how many dinners need to be ordered. Those who are able will pick out the day of the week and recognise the numbers from a Number Chart. (Months of the year are still an abstract blurr to most children of this age.)

Children should be stopped to look and listen whenever an opportunity of shared learning crops up. So much passes over the child if he is not helped to observe and draw conclusions.

All work produced by the children and displayed is labelled to some degree, although each individual piece of work may not be labelled. These labels encourage reading but often paintings and other forms of art work are displayed because they are pleasing to look at and these may come under such labels as "Our Paintings," or "My Painting — by Mary." Sometimes the omission of labels leads to interesting discussions from questions asked. The teacher has to show an interest and encourage the children to look our for their own work and recognise each others.

When pictures and models are created, they are done so for their own sake but usually the teacher encourages the child to verbalise a description:

"Tell me about your picture."

This needs to be a positive statement. A request might be met with a refusal!

The reply is usually — "This is a . . . ."

"That is a . . . ."

Rarely do complete sentences come at first. When sentences are constructed they are usually strung together with many "ands" to link them. "This is my mummy in the garden, and she is putting out the washing and my daddy is in the house and that is a tree and the sun is shining."

These remarks, short at first, can be written down for the child to copy. They know what they have said, they "read" what the teacher has written, write what they said and then "read" what they have written.

The children have name cards when they come to school and they practise each day until they can write their names. When they can write their own name there is usually a reward such as sticking a copy onto a decorated chart on the wall labelled, "We Can Write Our Own Names."

At the same time, formation of letters is being taught — writing in the air with a finger — writing in sand at the sand table with a finger. (This also serves a useful purpose when children have problems with memorising letter shapes later on. The experience of the grains of sand falling around their fingers reinforces the letter shape.)

The children then write with pencils — starting with ones which are slightly larger than normal and easier to grip. They must be long enough to allow the children good control of their writing.

Cards with such phrases as:

This is                  Here is                  It is

can be made and shown to the children. When they can recognise these, they can help themselves to these cards to copy the beginning of a sentence.

Class Dictionaries are made using pictures cut from magazines. These are put into categories such as:

Animals                  People                  Transport

so that the children know where to look for the words. If these are made by the class the children remember where to look and soon learn the shapes of certain words.

Colours are easily presented to the children in many attractive ways, e.g. Balloons, and the colour written on a card of the same colour helps to reinforce the word for the child. Numbers can also be presented to the children on displays so that they can relate between the figure, the name and what they represent.

The teacher must catch the child while his interest is still keen for any follow-up work such as writing a sentence about a painting. Sometimes they have to be encouraged to write the sentence about what they have found out, or painted. Interest has often evaporated by the time the painting is dry enough to write on the back so another piece of paper is needed. To provide an extra encouragement,

it can be promised that this appears to be developing into something good enough to be shown in an Assembly or to go into the Class Book.

When the child is confident in giving some information on his work, e.g. "It is a horse," he should be encouraged to volunteer more. The teacher can inquire further to receive answers such as "He is brown" or "He is eating grasses."

Often the first reading books the children have are the ones they have written themselves although sometimes a child can start to read from printed books before he has acquired any writing skills.

The children always have a class topic, sometimes presented by the teacher but often sparked off by an interest shown by a child or something brought into the classroom.

Every child has a book in which his work is recorded. Cards are made (these are done quickly in felt-tip pen when needed and are dispensable.) e.g. Eskimo Topic Cards are made of sentences offered by the children to go with illustrations made, or planned, by the teacher as repetitive reading material.

This is an Eskimo.

He hunted for fish.

He hunted for seals.

This is an Eskimo's igloo.

This is an Eskimo's kayak.

The children can then take these cards, read them, write them and read what they have written and add to it for themselves.

The children like to have their own books in which to work. These are kept on the teacher's desk or in individual work trays or boxes if they are provided. They decorate the covers to make them attractive and help them to recognise their own.

Varying the size and shape of the books adds interest, e.g.:

circular books in which to collect information on round objects,

house shaped books for a topic on the home,

castle shaped books for a topic on castles, trains, etc.

Class Books can be made from collections of pictures created by the children and the "stories" told by the children written by the teacher. This helps create an interest in other children's work and provides more excellent reading material.

Often a topic on Hospitals is included for this age range as it helps the children face an experience with which many come in contact and which, as an unknown situation, can be frightening to them.

One topic studied by a group of 5 and 6 year olds was "How to Build a House." Many of the children passed a site where a new house was being built and showed an interest. Some of the materials were collected and labelled. A class book was made on the building progress and a small book about tools was made. A model garage was made as a building project and tea boxes were painted for bricks. A garage was chosen as a follow-up from a story read to and enjoyed by the children.

The children are encouraged to go home and ask for information and families help in many ways. Parents often bring items into school which are connected with their trade and start a new interest in the classroom.

First reading books are short and contain few words. The children's confidence grows from completing a book. A careful check is made on the progress of each child and the teacher hears the children as often as possible. In a vertically streamed class the demands are varied but the better readers can be helped in groups and can help one another and those who are just beginning.

Word recognition is being carried out continually, sometimes with the use of flash cards. A variety of ways in the use of these is developed so that the children do not become bored with them.

Clearing up is emphasised at the end of each activity session. Much is made of the complicated chores so that the children do not mind tackling them. The "messy" ones need to be organised by the teacher in an established routine. The teacher asks the children to finish what they are doing and gives a few minutes for them to do so. Everyone helps to clear away. When the majority of tidying up is done the teacher organises the final sweep round. Then, as the children finish time-absorbing jobs the class is gathered together for a discussion session. The "workers" will gradually be drawn into this group and they can contribute from their working area if they work quietly.

This discussion session is one of the most valuable periods of the day. The children can be guided into explaining what they have done and gain the interest of others. They develop the beginnings of self-expression and a confidence within the group.

Much number work is reinforced in this way, e.g. counting. Children who have been working with Number Apparatus during the session can be encouraged to show the others what they have found out. This often sparks off a thought in the mind of another child who will then contribute his thoughts.

Teachers comments need to be open-ended so that the children can go as far as possible in their thinking on the subjects.

The children should become familiar with concepts as space:

- as big as
- as small as
- as high as
- as long as

They are encouraged to use their hands and feet to measure anything which is on hand. "The table is as long as three blocks."

The children then build up relationships, e.g. in size. They can see the meaning of "smaller than," "taller than," "the biggest," etc.

Cans of different sizes provided the material for an interesting study recently. They provided work on length, width, height, shape, area and circumference. They helped lay down basic information on these mathematical concepts, but to the children it was just looking at, and talking about, cans!

Much work is done on addition and there are many occasions when the situation provides practice in this, but subtraction needs to be emphasized too. Children must become familiar with reducing numbers.

Wet and dry sand can be used for weighing. Here again the concept of

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children are still struggling with the skills for reading.

Anyone who has come in contact with children of 9 years or more who have reading difficulties will be familiar with the emotional problems which occur. By having the class working out of the same text book, failure in the skills of reading are reinforced for children with a problem in this subject. When left to read on their own, they flounder hopelessly; if reading around the class is practised, the poor reader soon loses concentration or lives in fear of being called upon and losing face in front of his peers. Likewise, the good reader becomes bored at having to work at a slower rate than necessary for him to comprehend and appreciate the passage. Time is wasted which could be put to good use furthering his knowledge on the subject.

Individual work is of much greater value and it is now widely accepted that individualized teaching is preferable to class lessons. However, some class lessons are relevant and are enjoyed. Many children can be grouped together to be taught. These groups will not always consist of the same children. They may be made up of children who are at the same level of ability or they may be mixed. The groups may evolve for a variety of reasons:

1. The children may choose to work with some friends on a particular topic.
2. Children may gravitate into ability groups to tackle an assignment.
3. The Teacher may invite certain children to become a group.

As the children progress through the four years in the Junior School, they accept less routine and take more of the responsibility for the amount of time devoted to different aspects of their work. As their skills develop they can be given more freedom to use them. The children can be helped to understand that they can help themselves and to realise when guidance is needed. By helping to plan his own work in an individualised programme, the child eliminates useless repetition and is not frustrated by being either held up or left behind. The teacher is needed to co-ordinate the subjects and guide the child in a balanced programme.

Classroom Organisation is of prime importance. As much equipment as possible should be made available to the children. All members of the class should know where everything is kept so that time is not wasted in searching for materials. Exercise books for written work should be kept where children can help themselves. Interest Books and Story Books (see next chapter under "Language".) can be hung around the wall. This makes them accessible to their owners, provide extra reading material for all members of the class, and acts as a decorative effect in the classroom.

As many children as possible should have a chore for which they are entirely responsible. This makes each child feel essential to the running of the class. These chores can be changed from time to time, as some will have more appeal than others. With individualised teaching and freedom given to the children, the teacher is much busier than a teacher in a formal situation.

In a formal situation, with children following one of few texts and receiving class lessons, the teacher sets the standard and knows what to expect from each

child and the correction of work produced is relatively easy. In an informal situation, a teacher is constantly in demand during classroom activity and the amount of written work which comes in is often more than a teacher can check at the end of a day. Therefore, it is essential that the children assist in the day to day chores to relieve the teacher. Because of the amount of work produced by the children when working at their own rate, it is also essential that the written work is organised so that it is quite clear what has been done, i.e. the children must write a heading on their work and write in complete sentences. This saves confusion when books are checked in the absence of the children.

### EXERCISE BOOKS

The children in Britain produce their written work in note books which are provided by the Local Education Authorities. These come in a variety of sizes and contain plain (smooth and drawing) squared and lined paper. The children use these books for most of their work and this helps to keep the work on each topic together and acts as a permanent record of progress. Sometimes the children use these books as they are, but, more often they are split up into smaller ones with bright card covers. These covers are plain and can be decorated by the children. It is some time before the children are able to estimate the size of print needed for these covers and they need help with the lettering. It is good for them to take pride in the presentation of the book. They become disheartened if the lettering is inconsistent in size. It usually helps if the teacher prints the names of the children and any title until the child feels able to tackle the task. I like the children to provide the titles as this is another opportunity to make decisions for themselves.

Most work in mathematics is worked in books with  $\frac{1}{4}$  inch squares. The children are taught to put one figure in one square and set their work out neatly. Most creative written work (anything other than occasional formal practice exercises) is produced on plain paper. The children have a set of dark lines to put under plain paper so that they can see the lines when they write. This enables the children to space their work in a variety of ways and they can illustrate it much more effectively than in books of lined paper. Work for class books is produced on sheets of paper.

I rarely ask children to copy work as this is a boring exercise and has little value in itself. If the child is a poor speller or has untidy handwriting but the content of the work is worth sharing, then I ask them to re-write. A request such as "This is a lovely piece of work. I would like it on display. Would you like to make a neat copy on a clean piece of paper to put on the wall?" is made. Children usually respond willingly.

Unless help is given, the second piece of work is not likely to be an improvement on the first. However, I do think that except in very unusual circumstances (e.g. a child has such poor co-ordination that no other child is able to read their best effort) the work should be the child's own. Sometimes children with difficulty in control of pen and pencil can type with a degree of success.

To help assist the children work to a balanced programme, most classes work on a system for at least part of each day. In my own classroom we call this "Plan

Work."

With this plan, set groups of children (usually divided table by table) work at different set activities, although there is a certain amount of freedom within each. This allows the children to move from one activity to another systematically. It also means that children around one table will be occupied on the same activity and this enables the teacher to devote some time to one group at a time with the teaching of a new concept or to helping children with difficulties. Another important factor is that by using a semi-structured situation, it is ensured that each child receives a balanced programme. As there is so much checking of work to be done with a class of over 40, I check as much as possible with the children in class as they work, but I also collect books in sets each week, i.e. mathematics one day, story books another, etc. This also assists in "chasing up" the lazy children who get little of their work recorded. By moving about among the children as they work, it is possible to assess different problems and discuss work with children who understand what they are doing but are able to get little recorded.

I usually sort the main activities and divide them so that an activity which needs the use of reference material is followed by a more practical one. Different children have different preferences but they know that the system is "fair" and their favourite activities come round regularly.

It is a flexible system which can be varied from time to time, but basically it is just a plan to involve each group in a separate activity. I do not write any day in the week on the Plans so that the system does not have to be rigid. Plan work can come twice in one day or be ignored for a week as there is no pressure to keep to a fixed schedule.

#### EXAMPLES OF WORK ON A PLAN FOR 9 or 10 YEAR OLDS

##### *PLAN 1*

<i>Table 1</i> Reading and Book Reviews	<i>Table 2</i> English Workcards	<i>Table 3</i> Interest Books
<i>Table 4</i> Art & Craft	<i>Table 5</i> Story Books	<i>Table 6</i> *Practical Mathematics

##### *PLAN 2*

<i>Table 1</i> *Practical Mathematics	<i>Table 2</i> Reading & Book Reviews	<i>Table 3</i> English Workcards
<i>Table 4</i> Interest Books	<i>Table 5</i> Art & Craft	<i>Table 6</i> Story Book

\*Practical Mathematics is mathematical work which can be worked by each child from cards at their own level. This will be studied in more detail in Chapter Nine.

The children know that there is a freedom within these sections, e.g. they know that they can continue project work instead of Art and Craft, and as they become more used to organising themselves, they can alter the order in which they tackle their work as long as they complete what they have to do. Help with this organisation can be given to the children. Success is not immediate — some children need more help than others, and some need much longer to get used to disciplining themselves.

Different teachers prefer different methods of ensuring that the children are developing new skills and working a balanced programme. The type of programme which evolves in a class also depends on the group of children.

Some classes work on individual assignments which are given each day or each week and are checked through by the teacher at regular intervals. This works well in some cases and I find this kind of organisation works well in maths when the needs of individuals vary so widely. The objection I have to this method used in all subjects is that much work on the assignment is determined by the teacher, often in the absence of the child. Also, the children come to rely on having their work presented to them, complete this and go no further. Also the scheme can become "mechanical" and impersonal and lead to a selfishness in study. The child has his work checked and is guided into the next stage of the assignment and can work on oblivious of his companions and their work. In this case there is a lack of communications between the children and a loss of valuable contribution from others. The spontaneity of new ideas and the added interest which comes when children join together as groups does not arise so readily.

In some classrooms the teacher provides practice in skills centered round one theme. The children read, write, dramatise and produce Art and Craft around one subject, e.g. Communications; Houses and Homes; People at Work; Wild Life in our Area. These subjects need to be "wide" topics so that they can be developed in many directions. Sometimes some arithmetical and geometrical work arises quite naturally from the subject, but more often it has to be incorporated more indirectly by the teacher.

I think I have shown that my personal feelings about work at the Junior School stage are that the programme should be as flexible as possible, that each individual is helped to develop as far as he can and learns to take some of the responsibility for his study habits. Above all, there should be a variety, both in materials used and the method of presentation. Teachers will obviously work better if they are free to work in the way best suited for them to stimulate the children they teach with enthusiasm, interest and appreciation.

Some schools develop a pattern which is followed by the whole school, but ideally the teachers can work within this and adapt it to their own individual programme.

It will be easier to explain the informal methods by describing the work produced by children of Junior School Age. Although it is difficult to separate the work into subjects I have tried to do so and will devote the next chapters to a continuation of this by studying one subject at a time. It is essential for the

teacher to have overall aims for the skills they hope to teach the children, but so much of the work which has a true and lasting value develops from a chance remark made in a class, or a current event. Many aims are achieved without any preparation being made. By way of illustration, a full-scale project which arose on the subject of "Planets in Our Solar System" came from a discussion in a Science Lesson raised from the interest of one boy. What developed was a five day research programme consisting mainly of maths and involving the skills of various types of graph work. Therefore, the teaching of graphs which I would have tackled later in that year became both necessary and desirable for the recording of the findings being made by the children. They accepted some difficult concepts eagerly as it helped them to record information which was of prime importance to them at that time. (Details are in Chapter Eight under Discovery.)

## Language

**J**N this and the next six chapters, I shall deal with individual subjects, although I hope I have made it clear that in an Open Situation, the important factor is not the subject being learned but the method of learning. If asked at any time during a week what subject I am teaching, I would often have difficulty in answering. But I do make sure that all the children read, write and calculate during each day and some topics in which we become involved are definitely Geography or History-based even though what comes out of it may be more Art and Craft, English or Mathematics.

However, for the sake of presentation, I can think of no better way than division by subject-titles. I hope that the reader will understand if I stray from one to another at times, and will be able to see how a method used in one subject can easily be adapted for another. For example:

- i) In subjects such as Environmental Studies, Discovery and Natural History there is much overlap.
- ii) I shall illustrate the passage on Environmental Studies with details of Field Trips and Project Work, but both these methods are used in other subjects.

One thing I find some teachers in Canada and in the U.S.A. have difficulty in understanding is the way we have no set subjects or concepts to be taught in any one year.

In mathematics, for example, we begin to teach on from the concepts already grasped by the children; likewise with language skills. We try to keep a balance between the various subject bases for our Project work, but we also usually present a subject of particular interest to the class or ourselves. There is much discussion between the teachers of different age groups so that repetition is unlikely. If there are overlaps between one class and another, then this helps to give the children reassurance and an opportunity to contribute from knowledge already gained. We have also found that their understanding and use of reference materials develops with maturity so that the end result from one year group and another can be very different. It is this use of reference material and grounding in basic concepts which we are trying to establish, and when the children are seeking fresh information, they are *LEARNING*. A love of learning develops out of their interest and they are not committing set pieces of information to memory just to answer questions for a test. Therefore, a much wider aspect of a subject develops.

I have divided the Curriculum into the following subjects:

- i) Language — including Reading, Language Skills, Drama, Writing (Penmanship and Creative Writing) and Poetry.
- ii) Environmental Studies
- iii) Discovery (Science and Natural History)
- iv) Mathematics
- v) Art and Craft
- vi) Music (Vocal and Instrumental)
- vii) Games, Physical Education and Movement

I am concentrating on the Age Range of 7-11 years because this is the range of which I have had most experience. In discussing particular projects undertaken and the results, I will indicate the age of the group involved, but I hope it will be easy to see how these subjects can be adapted for older or younger children.

### LANGUAGE

The main aim in the teaching of Language Arts must be to enable the child to express himself as fully as possible, for his own satisfaction and for communication. Language teaching is going on continually in all subjects taught.

Children come into school from different home environments. Many will have a fairly wide vocabulary and communicate well and readily with their peers and with the teacher. Others will still use "baby talk." Some children will be unable to express their feelings either because of lack of vocabulary or from being suppressed by dominating parents or siblings. These children will often take what they want and resort to tears when things do not go their way.

Many are coming into a large group for the first time, and consideration for the others in the group is a hard lesson to learn. It is easier to snatch a toy from another child than to reason in words when the number of words relevant to the situation is limited. Lack of words leads to many frustrations.

Children possess a natural curiosity and once they develop confidence they will ask questions. These may be simple at first, both in their content and vocabulary but the answers to these form the base on which they build their store of knowledge. No teacher should ever be too busy to listen to a child's questions and answers, or help towards answers, given as soon as possible. With large numbers in the classroom it is difficult to be available to all children all the time, but they learn to wait their turn. If an immediate answer is impossible it helps the child to have notice taken of the question.

Children are usually anxious to comment as well as question and lose a great deal if we are too busy to listen. We can learn much about what is important to them if we take the trouble to listen to them talking to us and to others. It would be a shame if they thought we were uninterested in the things they care about.

Throughout Primary Education it is necessary for the teacher to be aware of the importance of teaching the children an everwidening vocabulary. There should be no limit to the amount to which they are exposed. The children should learn a variety of synonyms and be able to choose the best for the occasion. This kind of teaching can go on all the time, mostly by example, and is more effective when

done like this rather than submitting the children to lengthy lists to be learned.

The children should be encouraged to ask when they come across new words. With enthusiasm on the part of the teacher, the children can become excited by the sound of words and their meanings. This should always be of a high standard although the children's own choice of reading material should not be condemned outright. Some poor quality literature appeals to children because it is easy to read — often because it has limited and repetitive vocabulary with many pictures. Children can be encouraged to grow out of these stages but they serve to satisfy a definite early need for many children.

### SPEECH

Much time is spent on encouraging the children to express themselves orally. In the last chapter, I explained how the Infant classrooms are set up to give the children a wide range of activities where they can have learning experiences and are encouraged to talk about *what* they are doing, *why* they are doing it and *how* they are doing it. This is no difficulty for some of them. For others it takes longer and they need help in self-expression.

In an Infant Classroom "Show and Tell" is a great help in collecting thoughts together on a single object which is familiar to the child. They learn much from each other and the teacher can help in the gathering of words to describe certain objects. Nouns and verbs are easy enough to explain but adverbs and adjectives are abstract, and as such are difficult to master.

Some children need help in speaking in sentences and help here can be given by example rather than by correction. If a child thinks he is going to be corrected whenever he opens his mouth, he is soon going to withdraw and opt out of communicating at all. It helps a teacher to know a child well and have established a relationship with him before deciding on the best way of correcting him. Then there is less chance of a sensitive child taking the correction as personal condemnation.

As the children become more efficient at expressing themselves they can take part in discussions on how to explain more fully, what makes a good description and how to arrange their thoughts in some sort of order. By the age of 10 or 11 years children can be guided into debates. These need to be simple topics where there can be definite sides to the argument, e.g.:

"Should children do homework?"

"Should children wear a uniform at school?"

"Is fox-hunting cruel?"

These help the children to understand that they can have one point of view and still be able to "see" another's.

### DRAMA

Most children love acting. They like to imitate adults (sometimes to the embarrassment of the adult when mannerisms are mirrored in a child's dramatisation.) In free dramatic play a child can often portray feelings he would find difficult or even impossible to express in a formal situation.

Self expression can be given in various aspects of play when children can have the freedom of knowing they are unobserved but in the classroom situation the procedure needs to be more organised so that everyone may share in the experience.

The complete freedom expressed in the Infant Classroom is slightly more structured in a Drama session at the Junior level. A teacher is usually needed to step in with guide lines such as asking the children to decide the plot of their play, the number involved and how it will be terminated.

Although the children decide these things for themselves, they need help, at least to begin with. Otherwise, the children who are performing often find themselves in a situation which they do not appear to be able to terminate and, if boys are performing, the "play" can develop into one long mock fight. If the children take turns, they soon realise that, as a member of the audience, they like to *hear* words and understand what is going on. All children should be encouraged to take part in these activities, but not forced. Most can be persuaded to join in eventually. Some children find it easier to act out given situations and scenes from stories, known to them. Others like to invent their own fantasy. Most like some guide lines within which to work.

I see little value in set scripts for this age group, although for a public performance it is necessary for the children to have things planned out and often older children can be encouraged to gather material which has come from these "free" sessions into a script for themselves.

Anyone who has tried to teach children of this age from a set script will have met the difficulties of persuading children to learn lines and know the problems of maintaining any enthusiasm and expression in the delivery of them. Some guided mime work helps children to learn to exaggerate actions to be seen by an audience.

### READING

Reading and writing go hand-in-hand at first. A child will most easily read what he has just written. At first this will be copy writing and of course letter shape and recognition must be taught simultaneously, but no child should be prevented from putting down what he wants to say because he has not studied the letters of the alphabet needed. There is much satisfaction to be gained by copying down the words he has dictated to the teacher.

I think reading should be tackled in two different ways:

- i) Look and Say
- ii) Phonetically

Naturally, "building-up" words from their sounds is the method which is going to be of most use to the child, but some words necessary to read the simplest of sentences, e.g. 'the,' 'said,' 'here,' 'what,' 'when,' 'was,' 'my,' — are best taught for children to recognise.

The nouns most used by children for early reading and writing can be taught by the use of pictures, e.g. 'boy,' 'girl,' 'house,' 'school,' 'ball,' 'bus,' 'dog,' 'sun,' 'flower,' etc.

Some schools have adopted the Initial Teaching Alphabet (I.T.A.). I have not used it so I am not really in a position to make any judgements. However, I do know that many people have used it with great approval and many claim only limited success. It seems that again we have a tool which should be available for teachers to use at their discretion.

Not all children learn to read at the same age, and usually the older they are the harder it is to teach them. This is because of the emotional problems which develop in connection with their reading difficulties. At last there are some reading schemes suitable for older children with low reading ages who are still having difficulty with basic word building. An eleven-year old does not want to labor through such a text as

There is the ball.

I can see the ball.

Can you see the ball? etc.

A child must *want* to read in order to master the techniques, and an older child has often convinced himself that he *does not* want to read rather than commit himself to what looks like an unending struggle with babyish skills which will label him as "stupid" with his friends.

Once the child is enthusiastic about mastering the techniques, the teacher must make the programme as attractive as possible.

I find that the child learns more easily if he is given plenty to do to help himself with words on a subject which is of special interest to him rather than be faced with page after page of work which is difficult for him and holds little interest. This builds his confidence and absorbs his interest.

A book or series of cards which can be kept together and made by the child is often enjoyed. This can be a collection of vowel sounds, letter combinations and groups of words.

The child can learn basic vowel sounds and their letter names. A collection of words which begin with each vowel sound — (short sound) can be made on a card or page, each with a picture drawn on the top, e.g.:

*Card 1*

A a — Apple

*Card 2*

E e — Egg

*Card 3*

I i — Ink

*Card 4*

O o — Orange

*Card 5*

U u — Umbrella

It sometimes helps the child if he uses a different *colored* pencil for each list. Some children have difficulty in distinguishing one sound from another and the colour often reinforces it for them.

(I stress coloured pencil rather than wax crayon as the latter tend to be messy for writing exact letter shapes.)

This list can be extended whenever the child can think of another word and include words with the short sound contained within them. For a child for whom this is a great effort, a reward system may be needed — a star for every five words found under each letter.

When the child is happy with the vowel sounds, he can be introduced to the fact that sometimes one vowel says its own letter name — a long sound. He can be encouraged to listen for these sounds while at the same time learning how to recognise them in the written word.

He can start a collection of words under these headings, e.g.:

A

*A with the magic "e"*

mat - mate  
fat - fate  
can - cane

*AI*

rain  
train  
chain  
sail

*AY*

play  
day  
say  
stay

E

*EE*  
seen  
been  
seem

*EA*  
sea  
team  
bead  
increase

*IE*  
field  
fiend

I

*IE*  
die  
diet  
fiery

*I-E [magic]*  
pin - pine  
sit - site  
stripe  
like

*IGH*  
light  
bright  
fight  
tight

## O

*O-E [magic]*

hop - hope  
not - note  
pole  
those

*OA*

road  
boat  
oak  
coat  
foal

*OW*

sow  
slow  
grown  
yellow

## U

*U-E [magic]*

us - use  
flute

*EW*

few  
crew  
stew  
knew

*UE*

blue

The teacher can vary activities with this by using flash cards with the sounds printed on and also letting the children cut pictures out of magazines to illustrate the sound, or alternatively, cutting out pictures for the children to write words with the given sound. Children who are still struggling with the actual manipulation of a pencil can concentrate on collecting pictures in each group. Practice in cutting out helps children with co-ordination problems.

*AU*

author  
audience  
automatic  
caution  
cause  
autumn

*AW*

draw  
claw  
straw  
paw  
yawn

*OR*

for  
core  
more  
shore

*ER*

father  
brother  
herd  
alert  
better

*UR*

nurse  
purse  
further  
murder  
burst

*IR*

fir  
third  
stir  
bird  
circle

*AR*

car	rough
bark	tough
dark	enough
hark	
sharp	
barn	

*OW*

cow	proud
now	loud
crown	mountain
town	mound
down	round
scowl	sound

*OI*

oil	boy
boil	employ
coil	annoy
coin	toy
soil	
foil	

*CI*

cinema	silly
civil	sir
cinder	sick
cigarette	side

*SI*

silky
sir
sick
side
silky

*SH*

shore
shell
ship
shake
mash
fashion

*CH*

chair
church
chip
chapel
match

*TH*

the
them
those
this
other
another
tooth

I know that there are many excellent spelling programmes which tackle these step by step, week by week, but it may take some less able children several weeks

to master even one of these concepts. In such a case, the learner will soon become discouraged by the amount presented. Even when working at his own rate an individual is aware of the enormity of the task still left undone if given a book of work for the whole year. Similarly, if a child has mastered these facts at an earlier stage, and proved proficient in the use of them, there seems little point in going over it all again and boring him when this redundant time could be spent in doing more creative work.

Another plan which has worked well for children I have taught is a Word Box. Any box can be divided into three sections labelled:

1. Words I need
2. Words I know
3. Words I do not know

The child has a series of small cards which fit these divisions. He decides on the words he needs most for his writing, e.g.:

Days of the Week  
Months of the Year  
People's Names  
the  
and  
because  
everyone  
someone  
another

and they are recorded on cards and put in the "Words I need." The teacher then goes through the list and those the child recognises he puts in "Words I know" and the others into "Words I Do Not Know." He is encouraged to build sentences with the cards and copy them down.

Whenever he needs a word it goes on a card and into the section "Words I Need." Then, whenever the teacher goes through them, they can be transferred into the other sections. All sections must be checked so that he gradually transfers the "Don't Knows" into the "Knows."

It is more fun to have cards which can actually be moved from one place to another than to learn from a list, and there is a positive feeling of success as the cards move from the "don't know" section to the "know" section.

The value of this is limited but it serves a purpose in widening the reading vocabulary and builds confidence in expression by the written word.

Board games can be made and children can climb the board as in Snakes and Ladders but their progress is impeded by having to perform reading skills, e.g., adding consonants to vowel sounds to make words; putting the correct written card with the pictures shown and vice versa.

These games need not be elaborate as they usually are only needed to help children through a temporary difficulty.

There can be many ways in which the children can find words for themselves in the classroom, e.g.:

class dictionaries

labelled items

An amusing incident occurred in an Infant classroom recently. The children had been planting seeds and had fixed the packets onto the trays so that they would know which flowers were in each box. One little girl proudly wrote that she had planted some Cress seed and some "Virginia Stock." But when it came to the names she had copied from the seed packets, she, unfortunately, had copied the names of the seed merchants and not the variety! Her sentence read: "To-day I planted some Cuthberts and some Bees!"

I am a firm believer in children learning to read as soon as possible by whatever method is easiest for them. If one system of teaching does not work, then let the teacher try another. If teachers are restricted to one scheme, there are going to be some children who never get started. It also is important that, once a child begins to progress through one reading scheme, he be allowed to continue with that scheme until he becomes confident. Children who have found a stumbling block in one system can often overcome it if presented with a different scheme.

One teacher will prefer one method of teaching reading while another will like a different one, but, in the final analysis, it should be the inherent learning style of the child himself which determines the reading methods used with him. If the one the teacher favours does not work, then he is duty bound to search until he finds one which does.

I feel that children should be faced with short readers at first. There is a feeling of satisfaction to be gained by completing a book and some schemes group several readers at the same level so that although the children are still at one level in material they feel that they are progressing. The children should be able to work through the scheme without restriction within an age group, and if a child chooses a book which is not the next in sequence, but can read it, he should be allowed to continue. The aim is to help the child read and comprehend and I do not think we should worry too much about keeping records straight at the expense of this. A child should not be forced through every book in the series if it is not necessary. If a child selects another book which is higher (or lower) than the one he is working in, he should be allowed to attempt it, perhaps in conjunction with the other one.

I like children to have a story book to read as well as a book in a reading scheme. The choice of this can be left entirely to the children. When they have reached the stage of fluency through a reading scheme, then their reading will be mostly from these books. If there is no restriction on their rate of progress through the readers then they will be at a variety of ages when they leave them. This is the time I like to help in the choosing of books and the development of a criticism. Some children will naturally progress onto more mature literature but others need

help to leave books which are easy for them to "digest."

I try not to force the children to write reviews on everything they read because to many this is a chore which can result in a dislike of reading. However, there is a value in looking critically at the stories read and the formation of opinions on style, and discussion periods can be valuable. I also feel that there is a place for occasional written reviews to be shared with others. The children should be able to recognise their likes and dislikes in stories and style of writing.

Poetry and Literature should be read to the children as well as by the children. There is an enormous amount of "good" children's literature and I like to vary the content of what I read to the children as much as possible, e.g. some adventure, some historical, some fantasy, some animal stories, some science fiction.

It is impossible to go into every aspect of choosing books to read to children. Some books appeal more to one group than to another, and, as a teacher, your collection gathers over the years. One thing I think must be striven for is that the book should not be condescending. The toughest test for any book is its ability to stand up to being read aloud. Weaknesses soon show!

I like to read to the children every day — sometimes twice a day. This is a time shared together and usually comes at the end of the day. I do expect quiet for this time but never expect any follow-up work. Some often arises but only when taken up by the interest of the children. One book which recently caught the imaginations of my group of 10 year olds was the story of the Sager children on the Oregon Trail. Maps were drawn and the children wrote some interesting creative writing. Children of this age also enjoy stories about Achievements, e.g. The Wright Brothers, Scott, Louis Pasteur.

Another story recently appreciated is the tale of Professor J. Smith and his discovery of his Coelacanth. As a result of this story we arranged a visit to the Natural History Museum in London to see the specimen there.

Once the children are able to write words for themselves they are encouraged to compose their own sentences. In fact, except for penmanship exercises, the children are rarely asked to copy — from the blackboard or from books. If the children are encouraged to formulate their own ideas, then surely it is better for them to record them in their own way.

Once they are able to collect words, the children make their own dictionaries and can ask the teacher for words needed. Whenever possible the teacher encourages the children to "try" the word for themselves first. If they need help, then the teacher spells the needed word, but the children write the words into the dictionary themselves. When there is difficulty in the forming of letters, the teacher writes in the word under the appropriate letter and the child then copies it. This helps reinforce the spelling in the child's mind.

#### PENMANSHIP

Basic letter shapes are taught to children. Different schools prefer different styles but the emphasis is placed on legibility. There must be guidance with the

method of joining letters and in spacing. This needs constant practice and some children take longer than others to acquire the skill of control.

Although presentation is important, a child should not be discouraged from writing because he is unable to be neat. Care must be taken to make sure that carelessness is not mistaken for inability.

### CORRECTION OF WRITTEN WORK

When the children first begin to write, their work is accepted without correction. The children soon lose confidence if fault is found with their first efforts. Some improve quickly with regard to such things as spelling and punctuation, others take much longer. The important factor is that they should be able to record their thoughts on paper. If this paper comes back covered with corrections and the child is asked to re-write, they become disheartened. A flow of words should surely be more highly valued than correct spelling, punctuation, etc.

A better piece of writing will develop if the child is conscious of a good choice of words, than if he only uses ones he knows he can spell, and there seems little point in trying to force punctuation when a child is still struggling to construct a sentence.

We try to correct work in pencil so that the mistakes are not glaringly apparent. As most of their work is in books, the children do not appreciate it being disfigured. It is a shame if the correction of work which is after all being done to help and encourage the child should cause him to be ashamed of his efforts. If this happens, there is a chance that the child will take the attitude that it is better to do less work and have less corrections to do.

It is to be hoped that corrections will be noticed and acted upon, but there is more value in correcting work with the children present than correcting work to hand back to children at a later date. With individual teaching it is easier to help the children with a mistake at the time when it occurs.

I always give children a spelling list to commit to memory each week. This is partly an aid to self-discipline — having a task to complete within a given time. These words are usually chosen for one of three reasons:

- i) they are words which are often mis-spelt by many children in their daily work.
- ii) they are words which I know will be needed in subjects under study during the week.
- iii) words which belong to one family are often studied together, e.g.:  
words with the TION (shun) sound  
station  
direction  
function

Although these are marked and given back to the children, their results are judged on an individual basis and the emphasis placed on improvement.

### CREATIVE WRITING

Descriptive writing is encouraged from the earliest age. It is hoped that most

writing is "creative" but I am trying to distinguish between imaginative writing and realistic description, and factual recording.

The children are given the opportunity to express their thoughts on paper and given an awareness of the work words can do. We try to give them the idea of setting a scene in words as an artist does with paints and crayons. Many need constant practice in the choice and use of words. They assist each other and a wide variety of material presented to them helps to build a collection of ideas and words.

It is a continual process through school which helps to promote good creative writing. The children's attention should be drawn to good descriptions. Class lessons on gathering words to describe an object help the less imaginative. Hints or suggestions should be given rather than detailed observations or the children will just turn back the ideas thrown to them by the teacher, thinking that this is what will be most appreciated, e.g. when describing an out-door scene such questions as:

"What time of day or night is it?"

"What time of year is it?"

"Is it warm or cool?"

"Are you alone?"

"Can you hear anything?"

can be asked as the children sit, perhaps with their eyes closed. Once this kind of question begins to turn in the child's mind, he begins to see a picture he will want to share and then he has something to describe.

Many techniques can be used:

- I. The class can collect words for an object brought into the classroom, e.g.:  
a strangely shaped stone or piece of wood  
an interesting piece of material  
an object of interest from another country.

Words can be supplied to carry this even further with analogies, e.g.:

"Is it hard. As hard as . . . ?"

When a list has been compiled, the children can be encouraged to be more selective and pick out the words which really accurately describe the object. Games can be played, making collections of words, which express such things as:

i) sound	crackle	drone
	hiss	roar
	screech	soar
	smash	splash
	tinkle	crash

ii) speed	sprint	streak	amble
	limp	gallop	zoom

Children can help compile a Class Book called "Other Words." This can contain

words which are commonly over used such as said, nice, a lot. These can be listed and alternatives added. Discussion can be held over these from time to time and the book can be available for the children to consult, e.g.

<i>SAID</i>	<i>NICE</i>	<i>LOT OF</i>
exclaimed	lovely	many
moaned	excellent	quantity
argued	beautiful	much
howled	pretty	multitude
laughed		
queried		
answered		

The children can be encouraged to use the best word to fit the situation.

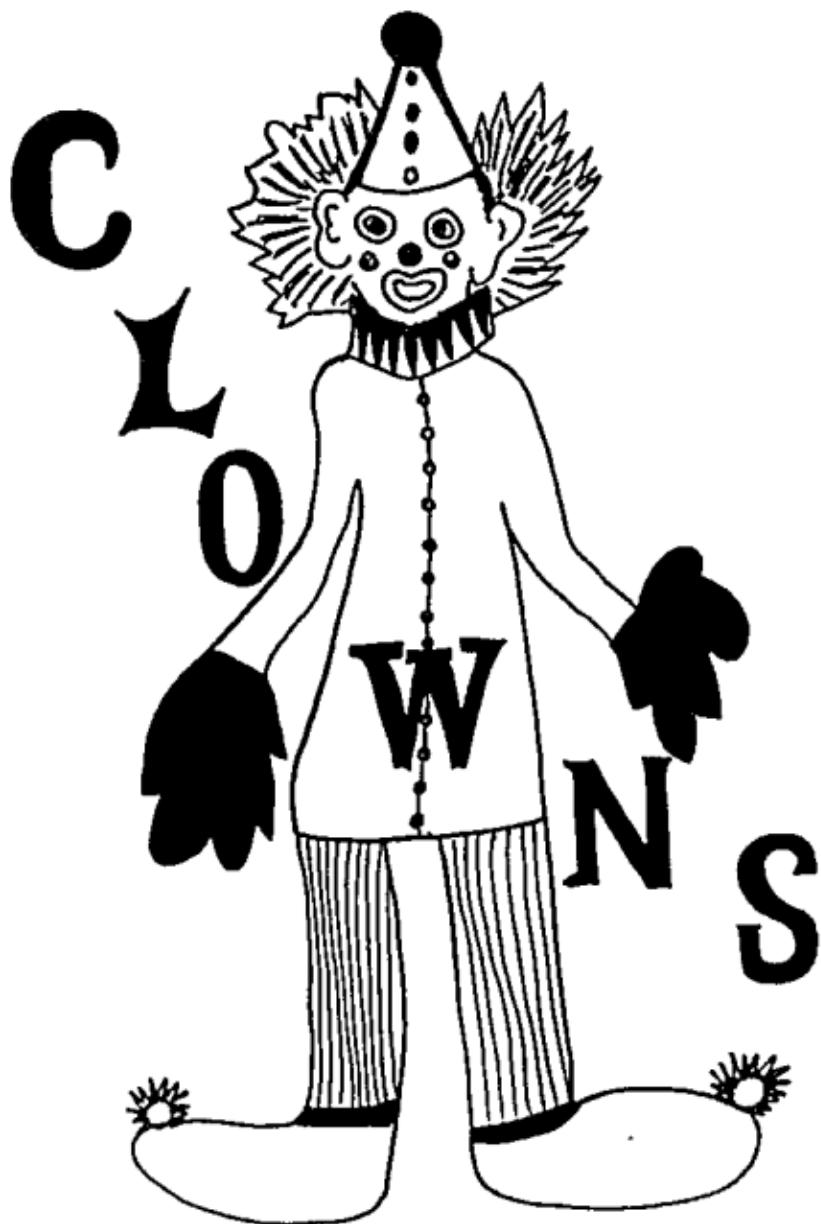
Often, when words on a particular subject are gathered by the class as a whole, I do not follow it immediately with writing as many of the ideas expressed by the teacher are used and more originality is likely to be shown if the writing is left until another occasion.

II. An idea can be given to the children from a shared piece of written work or poem and children can then write from ideas created by these. Some examples of children's work out of such activities are shown on the next several pages.

III. Children can be given a few sentences ending either mid-sentence or at an exciting point and asked to continue, e.g. "The footsteps stopped as suddenly as they had begun. There was a faint creak and the door swung slowly on its hinges.. This gives the feeling of suspense but does not limit the child to any particular setting.

IV. Sometimes the children can be inspired by a painting or a piece of music. This can be discussed or just presented as a stimulus.

V. Much creative writing comes as a result of a field trip. Children come back into the classroom with thoughts and impressions to put into words.



A cover made by one of the children.

By              The Clown  
Simon. 10

He strides about slowly  
his immense red trousers  
waving gaily. He wears a  
checkered shirt and spotted  
bow tie. He wears white make-  
up and when feet up it looks  
like a white dot. A smaller  
clown dodges round his wooden  
feet.

Water is thrown and sprayed  
and the audience wars with  
laughter.

The dazzling spot lights  
twinkle.

### The Clown.

His boots stamped around makes the floor vibrate. Large were his boots, this he knew only too well. In his path lay a bucket of white paint and as he was short-sighted you can guess what happened he tripped over the bucket and in he went. All his clothes got covered in paint. The flower in his bowler hat was hardly a flower at all now. His checked blazer was all white and his baggy trousers which were tied at the ankles were over-flowing with sloppy paint. The clown went over to an armchair, sat down-up jerked all the paint and covered the armchair in paint.

Julie. 11.



## Autumn

by Anne

10 yrs.

The leaves fall from the trees in yellows reds  
and oranges, onto the hard moist earth.  
Birds gather on the tree tops, and then after  
two or three days of waiting, will slowly  
fly in a few circles in the misty air, and  
then go away to a warmer climate.

The dew glistens on a spiders web as it sways  
in the damp air

A squirrel scurries down the tree trunk and  
starts scrabbling under the frosty leaves  
for acorns.

When it finds some it hurrys up the tree again  
The ground looks like a velvety carpet of oranges  
reds, purples, and yellows.

The fruits of the sycamore tree came parachuting  
down to earth, twisting round and round.

There is a soft 'plonk,' as another acorn falls to  
the ground.



## The Fall



The leaves make a carpet of colour  
and the bracken rustles as a hedge-  
hog moves about amidst a golden  
brown mist of leaves.

The frosty air tingles as a lone bird  
flies south across a grey sky.  
A squirrel scurries through the  
leaves and scampers up the bare  
trunk of an oak tree.

In the holly bush there glistens  
a spiders web and the minute  
drops of dew sparkle and shake  
as a breeze blows the stiff green  
leaves.



The withered flowers are heaped on  
a bonfire which glows and crackles.

The red apples with worm holes  
in them lie discarded under the  
hedge and the berries light up  
the hedge with tiny lights.



A grass snake slides to a hole  
in the ground to hibernate till  
winter has gone.



The dark wisps of clouds slit  
across the sky like torn pieces  
of cloth.

Autumn

Timothy

10 years.

The lovely Autumn leaves line  
the pavement and the road. They  
are kicked up by people passing  
and blown away in the wind.

Swallows and House  
Martins collect on the telegraph  
lines and others set off in large  
groups in the direction of Africa  
and other warmer countries.

In the parks conkers  
lie shining on the wet grass  
waiting for some boys to find them,  
under the Horse Chestnut trees.

Thin webs hang from  
the hedges and fires are lit  
to burn the rubbish ready for the  
winter.

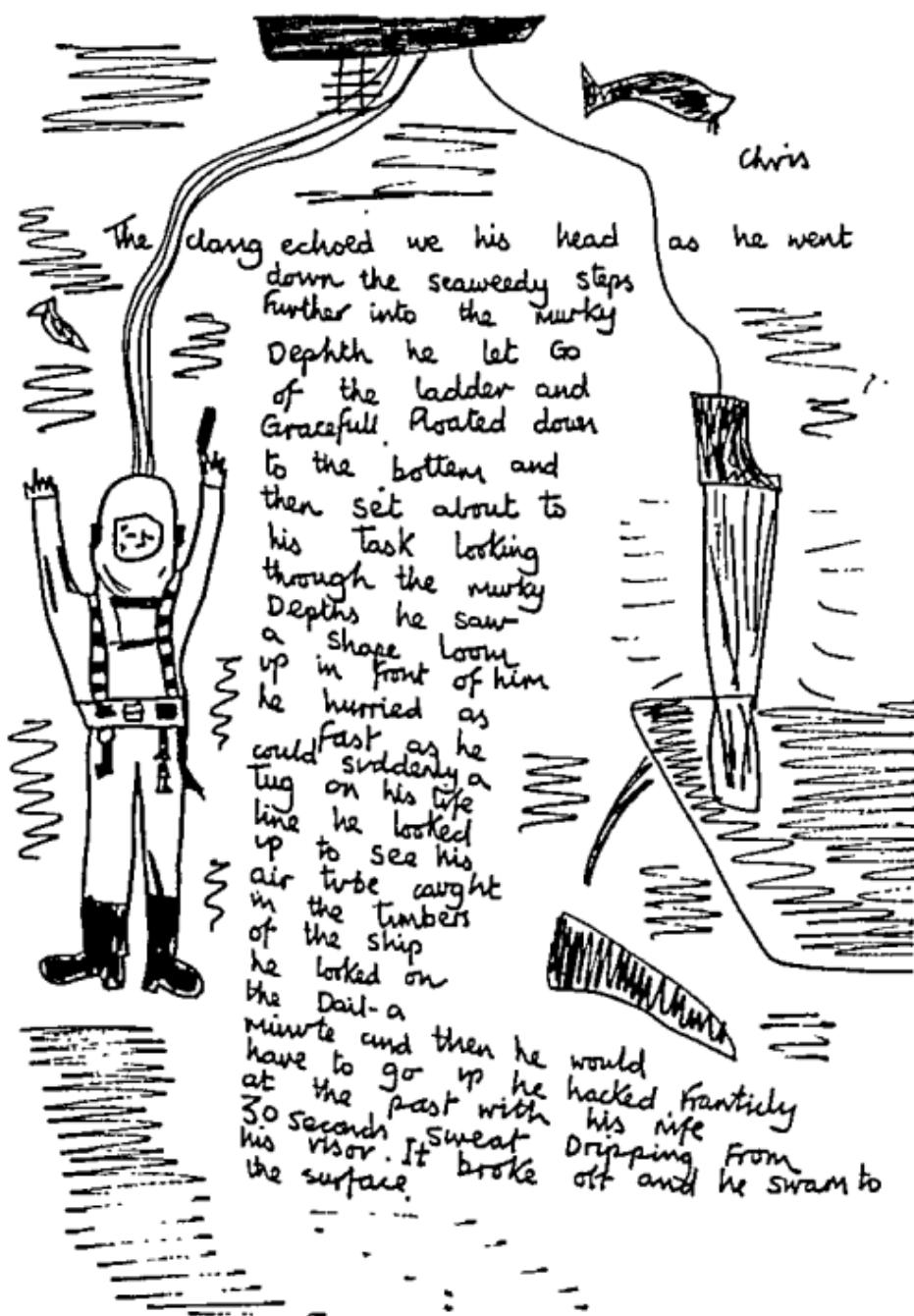
The weather gets colder and  
the days get shorter. The trees are  
bare and lifeless except for a few  
brown leaves here and there which  
in time will flutter down and join  
the mass of leaves on the ground.



## the ground mist

mist settles on the damp ground  
while the whirling fog drops his  
blanket of dampness. whilst it  
settles over the world. mist  
is like a world of nothing-ness  
swirling like a whirl-pool of  
steam. When you step out of the  
house the door of mist opens  
and you step into a world of  
emptiness until a faint glimmer  
of light breaks the darkness  
And the school gates suddenly  
come in sight

Andrew Aged 11

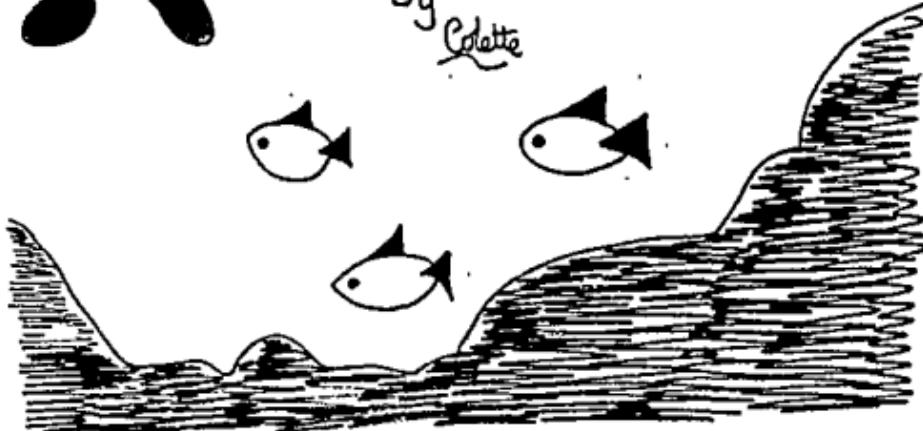




### Underwater

Down, down, down. Into the underwater land, seeking for treasure. Fish swam around. Somewhere he would find jewels silver, gold, that pirates had left long ago. The water was blared but somewhere he saw something that looked like gold, but when he got there there was nothing. He returned to the surface empty handed.

By  
Collette



# My First Flight

By James.

Whoops! another air pocket. This is worse than the sea. O dear, my stomach.

Beads of sweat trickle down my forehead and I feel sick. My knees knock together and quiver.

I look out of the window, but when I look down, it makes me worse, "How long until we land"? I ask.  
"Only five or ten minutes", replies Miss Gingell.

Five or ten more minutes, O dear, O dear, my stomach. My little blue bag is ready for action, but, O thank goodness, my ears-pop! and we land. We leave the little cramped plane. My knees turn to jelly and I can hardly walk. What a ride for my first flight.

## ANGER

by Carey

10 years

"A red hot fire burns in my throat. It aches.

I screw up my eyes and feel horrible.

A lump of clay seems to form in my throat.

My face is hot and my heart beats hard upon my chest.

I screw up my eyes and see only the world through tears.

Then my eyes open, I let the tears stream down my face.

Suddenly I am cool. I just feel relaxed and breathe deeply."

*This piece of writing was written after Carey came back to school having had to miss the visit to York whilst absent with a head cold.*

## YORK

by David

10 years

The Roman soldiers charged along the once medieval walls, which now changed by imagination had become Roman. The soldiers school jerseys had turned into shining armour that glittered in the sunshine. They waved their swords and brandished their spears, hacking out at the invisible foe. They did not heed the thousands of wounds they received, their only thought was to get the civilians to the safety of the Railway Museum. Arrows flew around, scaling ladders were pushed down. The Romans laughed at the cries of agony and the splashes as men hit the water twenty feet below.

They approached Micklegate Bar - a place for them to rest, but found it under heavy catapult fire. They would have to fight their way on the ground to safety and so they fought their way to the Railway Museum and going in changed into Casey Jones, Wally, Red Rock and the rest of the crew.

*This was written after a class outing to York - a city with most of the Roman walls still standing. There are Pedestrian ways around the walls approached by steps leading up at the sides of the Gateways into the town called Bars. We also visited the Railway Museum in which the children are allowed to climb into the locomotives.*

The Silent breath of the past, of  
the long forgotten years.

As I watch it seems to come to  
life. The horses trot past and  
a woman in a long silk dress  
walks down the street to buy  
a red ribbon for her small  
blue-eyed girl.

It is as if the wheel of time  
had stopped and the dust of  
the gone centuries had blown  
up and stirred once more.

Then, as I watch all falls silent,  
the trotting hooves, the high  
silk boots and the swish  
of satin is lost in the first  
footstep of a tourist. Sylma.

11 years.

Our Visit to the  
London Planetarium

When we went to London we visited the London Planetarium, which is next to Madam Tussauds. The programme started at eleven o'clock. All round the dome inside there was a silhouette of London. The man talking could operate the projector from where he was standing. He had a torch which instead of shining a round light it shone a green arrow. The projector could make the stars go on the ceiling of the dome and make them move. It felt as though you were moving with the stars but really you were just in the same place all the time. The programme lasted for forty minutes and had been very interesting indeed.

The London

Planetarium and Madame

Tussauds the Waxworks.



At first the children will put down their thoughts as they think of them and usually write in the present tense.

Gradually they develop the art of putting their thoughts into a sequence and eliminating repetition. By the age of 11 years most of them develop their writing as a whole and know how they will conclude it. This is definitely a maturity factor and a child often needs help in knowing when to stop!

It takes some time for the children to be able to write in the first person throughout a piece of work, especially when they are writing about themselves as another character.

It is also difficult for Primary children to remain consistently in a time other than the present in their writing. We have many examples of children writing about the time of Elizabeth I complete with detailed descriptions of costume and custom, and then suddenly producing a car driving up to provide the criminals with a quick getaway!

Although I think these points should be discussed with the children, they can be overlooked in correction at this stage, unless it is a careless slip on the part of a child who is capable of mastering the problem.

Some subjects lend themselves to good descriptive writing, e.g. Autumn, wind, snow, trains, clowns, pirates, caves, shells, ghosts, space, fire, shipwrecks, and all kinds of techniques can be used to help children.

Recently, we discussed many poems on trains and then children wrote about trains - many of them trying to get a rhythm of the train running through their words.

To encourage the children, we cut out an old steam engine with carriages behind, each large enough to have a piece of writing paper stuck onto it. This was stapled onto the sloping ceiling of the classroom. As well as a book of the writing produced, we have some of the work mounted actually on the train.

### A GIPSY LIFE FOR ME

by Sarah

11 years

The fire crackles as a hedgehog packed in clay goes in. My bare feet touch the dewy grass. I rustle my long red skirt and wriggle in my tightly laced black waistcoat. Underneath is a white puffed blouse.

My mother sits sewing a patchwork quilt and her face rises to me in a smile.

It is a summer evening yet the air is damp, and the grass still dewy.

The caravan is brightly painted with red and yellow. The top of the stable door opens and my brother and sister climb out running and leaping for they are sure-footed indeed.

"Fetch the water Cornelia" my mother calls and I pick up a blue painted bucket and run to get the water.

The fire crackles still, and then Rosa the best dancer comes out to dance. Immediately everyone crowds round to watch.

Oh! How beautiful is her dress. Her black hair shines as she taps a tamborine with a dark hand.

Then her fingers start clicking castinets and she gives one of her famous spins. Her dress is covered in sequin sparkles and each frill lifts up.

Then Carlo gets up. He does a solo also, while Rosa watches him. Then Rosa rushes in and they both dance together amid clapping.

I long for the dress Rosa wears and wish I am there in her place.

Then she holds out her hand to me, her earings flashing and her bracelets jingling. We spin and tap and whirl and she throws me in the air and catches me. At last she throws me up and I land in my own place.

"You dance well, No?" she says at last, and I blush with pleasure at this compliment.

Then the hedgehog which has been forgotten is prepared and eaten while my mother sings.

At last I retire. It's a gipsy life for me.

## SHRUBS

by Helen B.

9 years

All eyes are blinded for a split second as the brilliant flash of lightening fills the sky. Then it is gone. In a few seconds it is followed by the ear shattering rumble of thunder like boulders rolling down a mountainside. The rain falls in torrents filling hollows in the pavement and the road. A car roars by splashing its sides with muddy water. Again and again the lightening flashes and the thunder rumbles on its journey through the sky. Excited children chatter as they watch the storm from their classroom windows. Suddenly the storm stops and all that is left of the storm is hundreds of puddles which eager children splash in.

## ILL

by Helen M.

9 years

I raised my head off the pillow wearily my throat was sore and my head ached. The room was dim, I turned over and tried to get to sleep. The noise of the bees buzzing and a dog barking made me wish that I was out there on that lovely spring morning. Just then came the squeaking of the door handle being turned and my mother walked in, "Would you like anything to eat" she said. The very thought of food made me feel sick and I shook my head. It was after Mummy had gone downstairs I realised what a mistake I had made in shaking my head. I felt dizzy now and I let my head sink wearily onto the

pillow. My water bottle was cold but I didn't care. I lay there half awake when Daddy came in he told me I had been to sleep I was sure I hadn't but I felt much better.

### THE SNAIL

by Andrew

11 years

"Shiny

Slow

It crawls sadly

In the scorching sun.

Amid dying rivers of dew

Eyes on sticks

Wary, uncertain

Paying out gleaming trail

Quicksilver in the sunbeams

Admired, yet beyond all help

Patient, plodding snail."

*A sophisticated use of language in description reached by a boy at the end of the Junior School.*

Fog by Rosalind  
aged 11

Creeping, Crawling,  
Sweeping Drawing  
Thickening Swirling  
Ever Twirling.

Slow and weary  
Dismal Drearly  
Hanging Shirkling  
Dreamily lurking.

Scheming, Scaring  
Ghostly Daring  
Swallowing Clouding  
Mistily Shrouding.



One dark night so dreary and damp,  
 I walked slowly upstairs with a candle lit lamp  
 I climbed into bed with a sigh and a yawn  
 and hoped I'd be there at the break of the morn.  
 For, the smugglers come galloping at 12' in the night  
 So I make sure I'm in bed asleep and have switched off  
 the light.

Well, along comes the time for them to be galloping by  
 One had a black patch across his left eye  
 One had a handkerchief over his head.  
 'I hope we get back home,' one of them said.  
 Well I don't know what happened after that time  
 but I shouldn't think the King's men will have caught them this time.

Well that is my story of that night, dark and damp  
 When I walked slowly upstairs with a candle lit lamp.



## HOME TO THE COUNTRY COTTAGE

by Phillip

11 years

The smoke still rests in the air

Sharp and spicy

No fumes of petrol engines kill this feeling

Walking home.

Home to the cottage in the heather-strewn hills.

The track to the cottage is dry and cracked.

Not surfaced with tar.

The sky dulls

To a brilliant blue and a deep red

Evening has come.

## THE BEND

by John

11 years

My foot pressed down on the pedal

It moves round slowly and I had to press hard.

The hill seemed everlasting

The summit seemed an age away.

But at last I reached the top.

I removed my foot from the pedal

The bike started freewheeling down

Going faster every second.

Suddenly a bend came in sight.

A sharp bend to the right.

I activated my brakes

But they failed

The bend came nearer and nearer.

There was only one chance left.

I swung the handlebars round.

The bike skidded, but started to turn

It edged nearer the kerb.

It hit some grit

It wobbled and fell over.

But I was unhurt and safe.

### THE BLACK RIDERS

by Olivia

11 years

The tall black riders galloped up the hill

Silently

Their ghostly black horses made no sound.

The wind whistled through the old charred oaks.

An owl hooted.

It's lonesome cry echoed over the forest.

The cloaks of the riders —

Flew out behind them like billowing clouds.

The light from the full moon

shone out.

Casting uncanny shadows.

In the valley, a cock crows.

The first rays from the sun

Rise from the horizon.

The riders reach the summit

Overlooking a sheer precipice.

The river is below,

Gurgling

Swiftly it flows over the jagged rocks.

The horses with their eerie burdens do not stop.

On they go,

Over the edge of the cliff.

Then vanish into air.

#### PHANTOM FROST

by Sally

11 years

The grass is like silver cotton sewn into the black, hard ground, and the trees  
make a delicate webbing of shining mosaic against the sky.

Even the sky is shining white with frost and the privet leaves are tiny emerald hearts creased in millions of crystals.

As a Robin alights on a branch the frost comes swirling down in a gathering of tiny points of light.

The tree trunks seem harsh and dark in the frost, Seagulls swoop around but never seem to alight upon the frosty Earth.

But at night another picture is shown, the silver phantoms of bushes and trees seem to light up the dark night so that it is made less dark and not a single living creature is to be seen.

#### WEATHER

by Victoria

8 yrs. 4 months

The rain went pitter-patter pitter-patter against the windows. It made me feel very dull. I put my hand out of the window and it felt wet and funny. The flowers were getting weighed down with it, I felt sorry for them. The Rain looked like diamonds falling from the sky.

Poetry is introduced to the children as a collection of words needed to express a picture in the mind, not sentences which necessarily rhyme. Much of the quality is lost in a search for rhyme. If the children write poetry, emphasis is laid first on the choice of words to produce a concise piece of writing and secondly on the rhythm and pattern made by the words when they are written.

I feel it is important that the children should have the opportunity to read their work aloud. Just as this is a good test for a story written by a professional, so it is with children's work. If they read it aloud, they are soon aware of the imperfections and are often able to correct them for themselves. Even the less able children

should be encouraged to do this. It is surprising how well some of them can do if given the opportunity. Much social training can come through this type of activity. The children will encourage one another and learn to look for something which can be commended.

### STORY WRITING

The children love to write "stories" and as they mature and have more language skills, help can be given with story writing. By the fourth year in the Junior School, 10 and 11 year olds are able to cope with long stories written over a period of time. Some of the more capable can produce a long story book covering 48 sides of exercise book paper. To many a long story is an arduous task and the quality is lost in the endeavor to produce quantity. Here it is better to let the children concentrate on shorter stories. It seems to help if they can get the character, setting, etc. planned before they start. Children have a habit of bringing in too many characters. After several pages some of these characters are forgotten or there is room for them to appear so seldom, they have little effect on the story.

For the production of good work in story writing much needs to be said about presentation. Illustrations should add to the attraction of the book, not as space fillers. When children first begin to write they usually draw a picture which they then explain. Later the writing comes first and after a while the pictures are discarded. The children who enjoy drawing can use their ability to add extra interest to their work.

### TUNDRA by Krystyna

*A long story book written by an eleven year old who has a tremendous interest in dogs and horses. All her stories have delightful illustrations and she has to be dissuaded from drawing horses all around her math books. This is the beginning where she sets the scene and introduces the main characteristics.*

#### Chapter 1

Joe Grimes ran out of the ranch house. He heard the landrover come into the drive pulling a horse box. His father lived on a horse ranch with his wife and Joe and Brittle, the friendly mongrel.

Joe's father pulled up, and Joe who was eleven, ran panting with Brittle running at his heels.

"Take Brittle in. The mare's shy."

Joe ran to take Brittle into his pen. His father unlatched the bolt and gently coaxed the grey Arab mare out. She neighed and came out stiffly, stretching her legs.

"Joe, be a good boy and call the horse vet."

"Alright, father."

Mr. Joseph Grimes led the mare to a loose box. She lay herself down and rested while a gentle rap on the door made itself clearer. The horse vet, Mr. Drake was there. Mr. Grimes told Joe to eat his supper and then he called his wife. The mare was having a foal. It seemed to come out with difficulty.

They waited till 11 o'clock. After three hours it was soon on its feet suckling from its mother who was patiently licking it clean over and over again, by the light of the flickering lantern.

Mr. Grimes said that the foal looked more like its father who was a magnificent black thoroughbred. It had wide nostrils and rolling eyes, and was dark grey except for a white star on its forehead, a short white sock on the near side hind foot. Its chest was big and strong and very wide to let powerful lungs and massive muscles move about. It was very large and the emerald eyes shone in the dark dimly lit stable. Mr. Grimes knew it would grow into a magnificent colt. All three of them crept away silently and left the mare in peace.

*For a while it was difficult to persuade Krystyna to write about anything except horses. This is a piece of writing she produced after I had read "Elidor" by Alan Garner to the children.*

THE UNICORN  
by Ktystyna

A misty white figure, prancing over the floating clouds.

I can see it clearly now. A four-legged animal with a long, twisted horn.

Its kicking legs sending sparks around it and flicking flames squirt out of the nostrils. It is still now. Shaking its head and snorting and stamping on the swirling mist. The mane is long and delicate, like the threads of a spider's web, while the head is held up in a proud princely manner. The neck is arched and bold.

While it was swaying its head, it shone sapphire glinting eyes that blinked occasionally like a butterfly's wings. All of a sudden it was deathly still and its ears flickered warningly and it lowered its head to charge. I darted away and it sprang up its fore feet and began to rear. Then it let out a deep neigh and turned in the direction and thundered off into the dim greyness.

*This piece of writing was written by the same child, three years earlier.*

THE STALLIONS FIGHT

by Krystyna

8 yrs. 3 months.

The king of the herd walked proudly among his friends. He was a jet black horse. He was called Blacky. There was a brown horse. He did not like

Blacky. He wanted to be the king of the herd. He went up to Blacky and said I want to be king of the herd. Some hours later Blacky came up to Browny and said we will fight up on the mountain. The one who wins will be the king. Browny agreed. They went up the mountain and the fight started. Their hooves roared with thunder. Hundreds of stones rolled down the mountain. Blacky was winning. He saw that browny was getting tired. He knew that Browny was younger than him and so he stopped and said he could be a prince. So Blacky was still the king and Browny was the prince.

### MIST

by Rosalind

8 yrs. 1 month

On a cold damp day I stood on my doorstep  
I looked across the hills and saw the purple mist in the distance.  
The sky was grey and the ground was damp  
It made me feel shivery and cold  
The mist was very beautiful I thought  
Then from over the hill a large bird flew  
I ran inside.

*This was the opening of a 46 page story book written by the same girl when she reached the 4th year Juniors. The idea came after she had seen the movie "Cromwell". She did a tremendous amount of research on detail, such as hunting through the hymn book to find a hymn written in the correct century. She only made one time error, and that was when she described Mary's young brother playing with a wooden engine!*

## THE MURDER OF ALFRED JOHNSON

by Rosalind

Alfred Johnson was a Puritan and had a family of five, he was the Captain of all the soldiers in Essex at that time and had been causing a lot of trouble, so the King ordered a Cavalier General to hire two people to murder him in whatever way they liked.

The General ordered his groom to find an accomplice, which he did, and chose Sarah Richmond, the Johnson's maid, who willingly poisoned Johnson. After much fuss Sarah and James are found and brought to justice, but just as the trial is about to begin . . .

### CHAPTER 1 IN CHURCH

Everyone was standing in church with their heads bowed and eyes closed while the parson read the prayers, all except Mary Johnson who stood with her eyes open, counting the white tassels on the altar cloth.

Nobody would notice her because they all had their eyes shut and were far too busy concentrating on what the parson was saying.

They were to sing the hymn, "My song is love unknown."

Mary heartily detested this hymn. It had seven long and dreary verses and oh, how she wished that she didn't have to sing it, but she knew that she might be given a whipping when she reached home, so she joined in and tried to look as cheerful as she could.

Church had always bored Mary horribly, but she had never dared to say so. Oh, what a relief! Her parents and a few other people were standing up, it was over.



## My Fear of the fog

Only the lights could be seen,  
the rest was swallowed.

The cars were being devoured  
just half an instance after  
I first saw them.....

Footsteps! ..... I hear foot steps  
crunching on the gravel a few  
feet away, each ghostly tread  
was louder than the one before  
I took a step back, peering into  
the mist as  
I did, so,  
One more  
Step, and  
then I fled  
and back to  
the warm  
lights of home.



by  
Yoni aged 11

## Alone

John aged 10

Everyone is out, and I am alone, I sit on the chair in the sitting room. The square box in front of me is on and all is silent apart from Barry Davies blaring away reporting on the big match at Old Trafford. The lights are all out and just the little screen is illuminated. I am so engrossed in watching Forest thrash Utd. that I don't hear a thing as the other door shuts with a click in the darkness at the back of the room. Then suddenly Barry Davies runs down and the lighted screen fades away like a match burning out. A cold shiver runs down the length of my spine and all my muscles tense up. I relax again as I realize that it must be a power cut. But no, it can not be because as I draw the curtains back, the house next to us has its lights full on. I am petrified and I dare not move. I gradually rise from my seat and advance in the direction of the door. As I open it, it creaks on its hinges, a thing I have never heard that door do before. A well built body pushes past me and out of the door. I am horror-stricken and never lifted a finger as he goes. I drag my heavy scared body up the stairs and flop down into bed.

*This piece of work was produced by an eleven year old boy who finds great difficulty in story writing. Although he tries, he finds it almost impossible to invent a convincing plot and hard work to describe characters in details. His recording of factual data is excellent and occasionally he is able to produce a short piece of vivid description.*

*Barry Davies is a well known T.V. Sports Commentator and Old Trafford a sportsground in Manchester.*

*It is interesting to notice how John writes in the present tense until the last two sentences when he slips into the past.*

*This piece of writing was written by the same child 3 years earlier.*

### TREES

by John

8 yrs. 5 months

A leaf fluttered to the ground it was yellow and brown,  
 a red squirrel bounded up another tree and broke a twig off.  
 The wind swayed the trees and it rustled through the leaves  
 then the rain and the wind came and uprooted trees, the  
 branches snapped and crackled as they fell to the ground.

### INTEREST BOOKS

Another way in which our children put their reading and writing to use is in the making of Interest Books.

Some children begin these as early as the upper end of the Infant Department and they continue with these throughout the four years in the Junior School.

The children actually produce their own reference book on any subject in which they have an interest. Preferably this is a hobby or interest on which they have a fund of knowledge which can then be presented in an original way. Many children need help selecting from their interests to enable them to write on one subject at a time.

The children are encouraged to bring samples and pictures to stick in their books and folders to make them more interesting.

At first much help is needed for the children to organise and arrange information they want to write down and to know where to find additional information.

Much dictionary and reference training is brought into this work. The children learn to use an index, contents list, graphs, charts, time tables, dictionaries and glossaries.

A boy I taught last year who was an eleven year old with a reading age of less than 8 years struggled up to me one day carrying a volume of an Encyclopedia. He was going through a phase of great interest in flags. He had drawn many and copied names underneath and had decided to write about a particular one he had seen. He had lost the place and came to me with the words. "I can't fine FLAGS. I've got the 'FL's but I can't find the -ags." Needless to say, this was the beginning of a great improvement in his reading. The incentive was finally there.

It helps to start the children on an interest which can be divided into many sections with which the child can cope, e.g.:

Birds in my Garden

Animals at the Zoo

My Family

The child can then consider one bird, animal or person at a time for description and he learns the items which are important to detail, e.g. size, color, homes, characteristics. These books develop as the children's experience and interest widens. The only firm rules I establish for children and employed on interest work are . . .

When they are starting a book, they must find out as much as they can before they begin so that they can arrange their information in some sort of logical order, and secondly, that they do not copy from books. I always make a joke of it by saying that if I wanted to read what someone else thought on the subject I'd rather read it out of the printed book!

For some of the less able children, the system of dictation can be used. They can dictate to the teacher and the teacher can write it for the child to copy.

Some children really produce excellent work in Interest Books. They can choose the subject they wish to study and the method of presentation. They are learning through this work to organise their thoughts and the use of reference materials. They work at their own rate and learn how to produce an original piece of work.

One of the most absorbing Interest Books produced in my class was "My own Invention for Secret Agents." The writer was a 9 year old boy who used the information he had learned from books and used his imagination to produce a delightful book, complete with illustrations.

By the 4th year in the Junior School, I let the children make their own books so they are able to put in as many pages as they think they will need.

If a class is becoming bored with interest books, it sometimes helps to take them away for a while. Constant help and guidance is needed and one teacher helped her class by choosing a title and discussing the presentation. Then each child contributed a page for the book. This helped to raise the standard of work in individual books.

I hope that having come this far, the reader will not assume that no formal grammar is taught to children in English Primary Schools. The child is taught language skills as he is able to cope with them. Some work is done in groups and as a class when children can help one another to understand some of the rules in Language Usage. When teaching rules in Grammar I think it is important to point out to the children that the reason for them is to aid communication.

Much of this work can be reinforced in any subject where the child needs to follow instructions, to question, to observe, and to record, and it is a teacher's duty to be aware of the necessity of teaching Language at all times.

## Environmental Studies

FROM the Title, "Environmental Studies" it would be expected that the subjects deal with the world the children know from their own experience. They tend to follow the subjects known traditionally as "Geography" and "History" — which came under the title "Social Studies" when I was teaching in the U.S.A.

The term "Environmental Studies" evolved to try to practice the advice of teaching "from the known to the unknown". I have already written that I think this is sound advice, but as with most "rules of thumb," it has to be adapted to the situation. The "known" has extending horizons for the children of to-day. Television often brings the "unknown" very close to them. Many children have experience of travel and make frequent changes in their environment. They are able to make visits to see places of interest and people at work. They can develop an understanding of others, appreciate skill in different types of work, and the beauty found in natural objects.

Children from deprived homes and in underprivileged areas can be given the same kind of experiences beginning in their own area. The teacher has a responsibility to help these children to open their eyes to appreciate some of the things they see around them. This is not to say that they should be given false values or to ignore the things which need changing. But, by appreciating the "good" there is, they will have a better self image and a more positive approach to changing the "bad."

The children in a class in one school in such an area began an Environmental Study on their own building. The children were 8 year olds and they learned to draw maps of the school and mark in the places where the people who helped it function could be found:

The Head Teacher (Headmaster, Principal)

The Janitor

The Secretary

The Nurse, etc.

The children made tours to meet these people and hear about their jobs. This was a beginning of an appreciation of others and an understanding of how life in that school appeared to different people.

This is a section of the curriculum which can be treated in the most informal way and gives rise to the greatest development by the children themselves. Often, enough work in all subjects arises from it to keep everyone occupied for much of each day over a period of time.

If this situation arises, then I think it is important that the teacher uses his skill to guide the children along as many "side-routes" as possible. If a child can see the connection of some maths work in a project on Transport (e.g., speed, time and distance etc.) then it is likely to have more meaning than it would if taught in isolation. Because the subject has sprung from research by a child in a group, there is a chance that several children in the group will become interested. In fact, it may even be possible to do some work on it with most of the class. Studied in context there is also the possibility that some children who have difficulty with mathematical concepts will show better understanding than usual. The fact that the logical aspect can be seen when the problem arises naturally allows the children to work with confidence.

A class studying "Sheep Farming" will become bored and produce work showing lack of interest and originality if they are instructed to plot sheep farming areas in geography; follow the story of the Woolen Industry in History; study the life cycle of the sheep in nature study; count sheep in math; paint and model sheep in Art and Craft; write poems about lambs in English; dance like sheep in movement; and sing songs about sheep in music! This is an extreme example, but once a teacher finds himself pressured into searching for illustrations on a subject and paying more attention to the subject heading than the interest content, he should beware.

If the children can be guided into the channels of other subjects radiating from the theme and show an interest in exploring them, this is a different matter and the teacher is then needed to help them follow a constructive line of thought.

Although I like to see as many subjects integrated as possible and the children to be aware of the relationships between one subject and another, I cannot stress too strongly the mistake which can be made by forcing this issue.

During the four years in the Junior Department, the children learn how to use reference material. They use dictionaries, indices and glossaries and develop their map skills. It takes time for the children to learn to select from reference material which is available to them and to classify their information.

Eventually, they learn to help one another, how to delegate work to those best suited for it and, perhaps most important, to appreciate the value of independent research for a group effort to eliminate repetition. It takes time for a child to see that within a subject, many others may be considered.

At the lower end of the junior department, children can be encouraged to work with others, but they usually end up wanting to present their own work in their own way. Sometimes they can be encouraged to join together in groups, and make group presentations, but unless they are directed by a teacher there tends to be much repetition. One of the problems here is that young children have difficulty in delegating work throughout a group, and they are often unable to read each others' writing. However, this is a natural stage in development and only by allowing the children to pass through this phase can they be taught to divide their labours. The important part of this work is the "doing", so a teacher of young children must recognize this and not lay too much emphasis on variety in the finished product.

The teacher can be of most use at this stage in using his skill in the formation of the groups. Sometimes friends work well together, sometimes the children's choice does not produce the best results. Often a combination choice by children and teacher is the best one.

The less able children working together on this kind of activity is in my experience, disastrous. They are unable to read well enough to find sufficient information and their presentation is often poor. As I have already pointed out, the less able children are likely to make more effort and achieve more satisfaction at the junior stage if they are placed among children with more ability.

Teachers can make visual aids to help the less able children. Much of the reference material can be produced in a pictorial way and I think there is a place for accurate copying as long as the child can read and understand what he is writing.

To decide which group shall study which aspect of the subject I try to vary my methods.

We often make a list of titles which evolve from the main study and draw from a "hat" to decide which group works under each title, e.g.:

1. The children (one from each group) can take turns to draw the titles (written on pieces of paper and folded.)
2. The children can draw a number and then beginning with the lowest number, choose the title they want.

At other times we make a list, form groups and then the groups with the oldest child (or the youngest, or one with a birthday, etc.) has first choice.

Teachers can contrive their own methods but the children enjoy variety. The procedure then seems fair.

Once in a group and given a title does not mean that a child has no chance of studying a section of the subject in which he has a particular interest or knowledge. Splinter groups and cross-groups can be organised and some children are capable of contributing to more than one group during the progress of the study.

In the Infant Section as I tried to show in Chapter Five, the children follow Environmental Studies in a truer sense of the words. Their work usually follows an interest shown by a member, or by members, of the group. Because of the children's immaturity the study must be guided more by the teacher, but even at this early age children often have ideas of their own which can be executed. A teacher should never have such clear cut ideas on what should be studied that the children's ideas are suppressed.

In the Junior Department the children begin to take more responsibility for their work. Although many projects in this subject arise from the interest of children in the class, more often, for practical reasons, the actual title has to be chosen by the teacher. There are several reasons for this:

1. If the class is to be asked to set out to do individual research, it must be on a subject on which there is plenty of reference material available.
2. If the school system demands that a syllabus is adhered to, then any,

projects developed within Environmental Studies must have themes which allow the information in the syllabus to be taught.

3. Although it is possible to "learn with the children," a teacher is able to contribute much more to a subject in which he has some background knowledge and interest.

The important thing is that having chosen the overall title for the project, the teacher must work to see that each individual is able to contribute to and gain as much from it as possible.

I have worked the same projects with different groups of children and had completely different results from each. Although tackling the same subjects, I rarely present them in the same way. Different groups of children respond more readily to different methods. During 1971-72 I worked with 42 unstreamed boys and girls, and within the class there were some very able children. Many were able to hold the attention of the class for up to 20 minutes at a time. Several of them seemed incapable of producing group efforts. Therefore, after two attempts, I decided not to further put them into a position of being compelled to work in this manner.

Work which has been presented in groups at the end of a project was worked at individually or in pairs. The work then was put together with the help of a member of each group. I think there is still some value in this method, because it has then been presented to the class as a complete project and the children can understand that they are working together towards one common end.

When embarking on such studies, a teacher cannot know how long the project will take. There can be no time limit set at the beginning and the preparation by the teacher must be open-ended and his attitude must be flexible enough to accommodate the changes which the children will demand.

However, the teacher must be able to fix overall aims and keep them in mind so that although any directed work is open-ended, the children are not left to flounder and become disheartened by the enormity of the information available to them. Sometimes the children are unable to go as far as the teacher has visualised and it is necessary to terminate earlier than anticipated. At other times the interest shown allows for many more aspects to be taken into consideration.

On occasions I have allowed those who wished to do so, to carry on with a topic already under way, as well as beginning a new one. Two children working on "The Theatre" recently worked for nearly 7 months. On the last day of the school year one of them was still busy writing on it.

However, I do think it is important that the subject should not be allowed to fade away because some people have completed all they can but others are still busy. A definite climax should be striven for and there should be a time when the information is gathered and presented in as complete a way as possible. There should always be the understanding that a subject is never finished — it can always be added to. But for the sake of that particular presentation the children should always try to complete what they set out to do. They should also make it clear when there are open-ended channels which they hope to explore later.

Presentation is particularly important in Environmental Studies. If the children

are working along different lines, it helps them if the teacher can guide them back to the central theme. This can be done by a wall display to which each group contributes from time to time. Attention to this must be brought up by the teacher. Although it may seem obviously clear to an adult how the different aspects link, it can be very confusing to a child. Time should be taken every few days for the children to discuss what they are doing and to enable them to be aware of what is happening in other parts of the classroom. It is all too easy for the teacher who is in constant touch with each member of the class to forget that some children have very little to do with others in the group and are totally unaware of what is going on in other groups.

In a system where there is no set syllabus a teacher would be well advised to find out the subjects already studied by the children. (This is best found by consulting the past teachers of the group. Sometimes the children are unreliable sources of information.) There is usually a record of projects followed by the group in the Class Folder but it helps to discuss the aspects of study with the teacher. This is only a problem if a teacher has come new to a school and the last teacher of the class has left. When working in the school the Environmental Studies followed by each class are usually noticed by teachers throughout the school, children come from other classes in search of information, and of course there is conversation in the faculty room.

Teachers in a system where there is complete free choice in Environmental Studies usually try to balance the subject matter in projects between those which are historically based and those which are geographically based. Sometimes it is possible to combine both equally.

Next will be a description of the preparation, execution, and presentation of 4 projects in Environmental Studies. In each of these different ways of working with the children will be illustrated, but it is to be noted that *any* of the methods illustrated can be used for each. The children enjoy a varied approach. It is to be further noted that much of the finished product grows from incidents which occur en route. These particular examples worked best for me with the group with which I was working at the time. If unsure of the reaction likely to be shown by the children, I find it helps to introduce the subject to be studied for discussion. Some good ideas can come from the children and the teacher can plan around them. If little is forthcoming, the teacher can go ahead as he thinks best bearing in mind where interest was shown.

I expect it has become obvious from the last few sentences that I am not fully prepared when I introduce a subject for study. I find that if I prepare too much beforehand much of my time spent on preparation is wasted. If the children's lines of research do not follow one's own, then much of the planned work is not used and having gone to so much trouble it is a great temptation to the teacher to structure the children in order to have it used!

Whatever the subject, the teacher must acquaint himself with the reference material available within the school. The younger and less able children will need direction to these. Some will need pictures presented to them with leading questions in simple language to help them observe the necessary details. If the

reference material is too advanced for the poorer ones, then it is helpful to compile some information in alphabetical order in simple language so that the children are able to help themselves. They need to learn some dictionary skills and how to use reference materials even though much of the work is done for them. I think emphasis should always be laid on children writing in their own words and drawing their own illustrations, but hard and fast rules cannot be made on this. If a child is capable of little original writing, and is a poor reader and writer, then there is much to commend in a piece of correct copy writing. This being the case, I think it is important that the child should know and understand what he has written. Likewise, a child with a severe co-ordination problem will be better pleased with a traced illustration, but perhaps should be encouraged to colour in the picture for himself.

Although, as far as possible, I think the children should make decisions about how they share the work, how they tackle their assignments, and how they present their work, this only comes naturally in a few cases. The teacher is needed to show alternatives, and to give help when necessary to aid the children in making a decision.

### FARMING

(a group of 38 — 8 and 9 year olds)

Farming proves an interesting topic for Junior children as there is usually a fascination for living things. Although there is more first-hand knowledge available to children who live in the countryside, this is a good example of teaching "the unknown" when studying the subject of farming with city children.

It is usually possible to arrange a visit into some sort of farming area with most city children. If this is not a practical proposal, then there are museums, books and models which can be used as second choice.

Although the Farming Industry is now mechanised and highly efficient and the children should recognise this, I see no harm in setting up a classroom farm in the traditional manner. While accepting that most farms specialise to make full use of their resources, the children can be encouraged to utilise their materials to build a traditional "mixed farm." In Britain these are still found as the countryside varies considerably within small areas, so a variety of uses are made of the natural surroundings.

This project helps to map the country into areas according to physical features and helps the children to understand how these determine the kind of farming chosen. With an older group this can be extended world-wide and the children can begin to understand the reasons and values of importation and exportation. From this project children see evidence of the effect of the Seasons and the influence of weather conditions. With this age group I find that beginning with basic foods which we eat is a good starting point. Other suggestions such as jam, sauces, ice-cream, etc. can be put on one side until they can be fitted into categories arising from basic foods. Children can be asked to collect wrappers from food which is made from several ingredients. These will help in classification.

When the information is collected, it is likely that extra factors will be found

which can be considered as a part of the whole project, e.g.:

Wool

By-products from pigs, — manure, fertilizers, etc.

Suggestions from the children can be roughly divided into the following groups:

Bread — flour — wheat — ARABLE

Butter

Cheese } cows — DAIRY

Milk

Meat — BEEF CATTLE — leather

SHEEP

PIGS

Eggs — POULTRY

Vegetables — MARKET GARDENING

Fruits — FRUIT FARMING

The children can then see that there are some main channels from which they can then work.

Depending on the number of children in the class, and the centres of interest which develop, the following headings can be drawn up on a display board with folders in which guide cards and supplementary information can be left for the group by the teacher and other members of the class:

ARABLE FARMING

DAIRY FARMING

SHEEP FARMING

PIGS AND POULTRY

MARKET GARDENING

FRUIT FARMING

FARM ANIMALS

FARM MACHINERY

When we study farming, the group looking at Arable farming always plant crops and keep charts of growth rate and conditions.

Until recently, when free milk was supplied to all junior children by the Government, the Dairy Farming Group always saved the cream from the top of their bottles to shake and make butter. This was done in a screw-top jar. It was handed round the class and shaken until the butter fat separated (about 45 minutes). Salt was then added for taste, was spread onto bread, and tasted by everyone.

A visit to a dairy can usually be arranged quite easily.

The Sheep Farming Group is usually able to collect wool from hedges and fences in the country. (I always keep a stock from collections I make on journeys which take me across the country. Woolen manufacturers are often cooperative about sending samples.)

If there is sufficient wool, the children are able to clean it and card it (using two hair-brushes), spin it (usually on a home made spindle — made by using a yarn bobbin and a pencil), and sometimes experiment with natural dyes and weave it. All these stages of the process can be mounted and explained in writing.

## Sheep Farming.

1. Decide how you are going to divide the work you can do on this subject.
2. Decide how you are going to present this work.
3. Make a map to show the main sheep-farming areas in Britain.

Remember to describe a sheep farm.

Follow the life of a sheep.

How do sheep dogs help ?

What is "dipping" and "shearing" ?

Find out as much as you can and see how clearly you can set it out.

Here are some books to help you :-

Farming by F — P. II →

Manor Farm

Study Book of Farming.

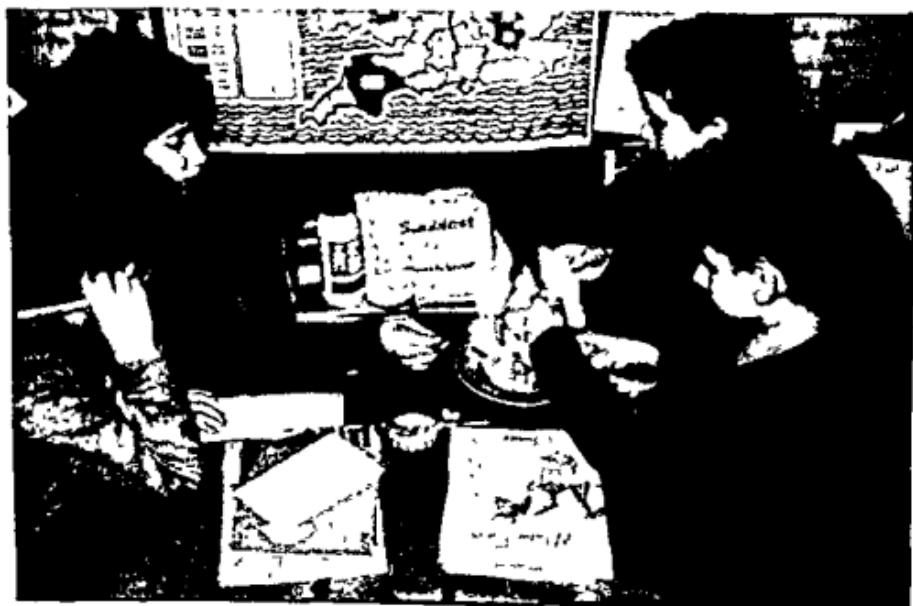
Studying Britain . Ch. 8.

Park Road	S.	M.	T.	W.	Th.	F.	S.	Weekly Total.
Mrs. Jones	3	3	4	2	3	3	4	h
Mrs. Brown	3	3	3	3	3	3	3	i
Miss Smith	1	-	0	0	1	2	-	j
Mrs. White	4	4	2	3	4	2	3	k
Miss Moore	2	3	3	2	2	2	2	l
Mrs. Black	6	8	6	6	7	6	7	m
Mrs. Tower	2	3	2	2	3	3	4	n
Mrs. Miller	4	3	4	4	3	4	3	o
Daily Total	a	b	c	d	e	f	g	?

Milk taken by people living in Park Road.

1. Work out the total of milk taken on:-  
a) Sunday      d) Wednesday  
b) Monday      e) Thursday      g) Saturday  
c) Tuesday      f) Friday
2. On which day was the most milk taken?
3. Can you show this information more clearly?
4. Work out the weekly total of milk taken by each person :-  
h) Mrs. Jones      l) Miss Moore  
i) Miss Brown      m) Mrs. Black  
j) Miss Smith      n) Mrs. Tower  
k) Mrs. White      o) Mrs. Miller
5. Who takes the most milk during the week?
6. Draw a graph to show the weekly totals.

7. Are there any people who take the same amount of milk during the week?
8. Who takes the most milk on Wednesday?
9. Who takes the least milk on Friday?
10. See how many different ways you can record this information.



*Making butter for the farm project*

four pigs, two goats, some hens and rabbits. There was also a small Market Garden Section. The Junior children were divided into small groups and put into the care of the Secondary ones. We spent an hour and a half with the animals, learning about how they are fed and cared for. The children rode the horse and held rabbits which were only 10 days old.

During the second part of the morning the Secondary children were to spend the time in the lecture theatre watching a practical demonstration by a pig butcher. The carcasses were those of two pigs reared on the School Farm. They had been slaughtered and inspected, and had been returned for butchering. Children studying Home Economics were also present. We went along and sat at the back. The demonstration took place under lights and the children were fascinated. I sat those children whom I thought might be squeamish near me, but they were so interested in all that was going on and so impressed to be in a school amongst older children that there were no problems.

This visit came about two-thirds of the way through our work on this project. It greatly helped the children by injecting fresh enthusiasm by having seen the "real" thing.

#### TRANSPORT (a group of 45—9 to 10 years olds)

This project was prepared for by collecting together pictures of different kinds of transportation.

At first discussion, the children thought of the various methods of transport they used to travel to school. These fell into four categories:

1. Feet
2. Bicycle
3. Car
4. Bus

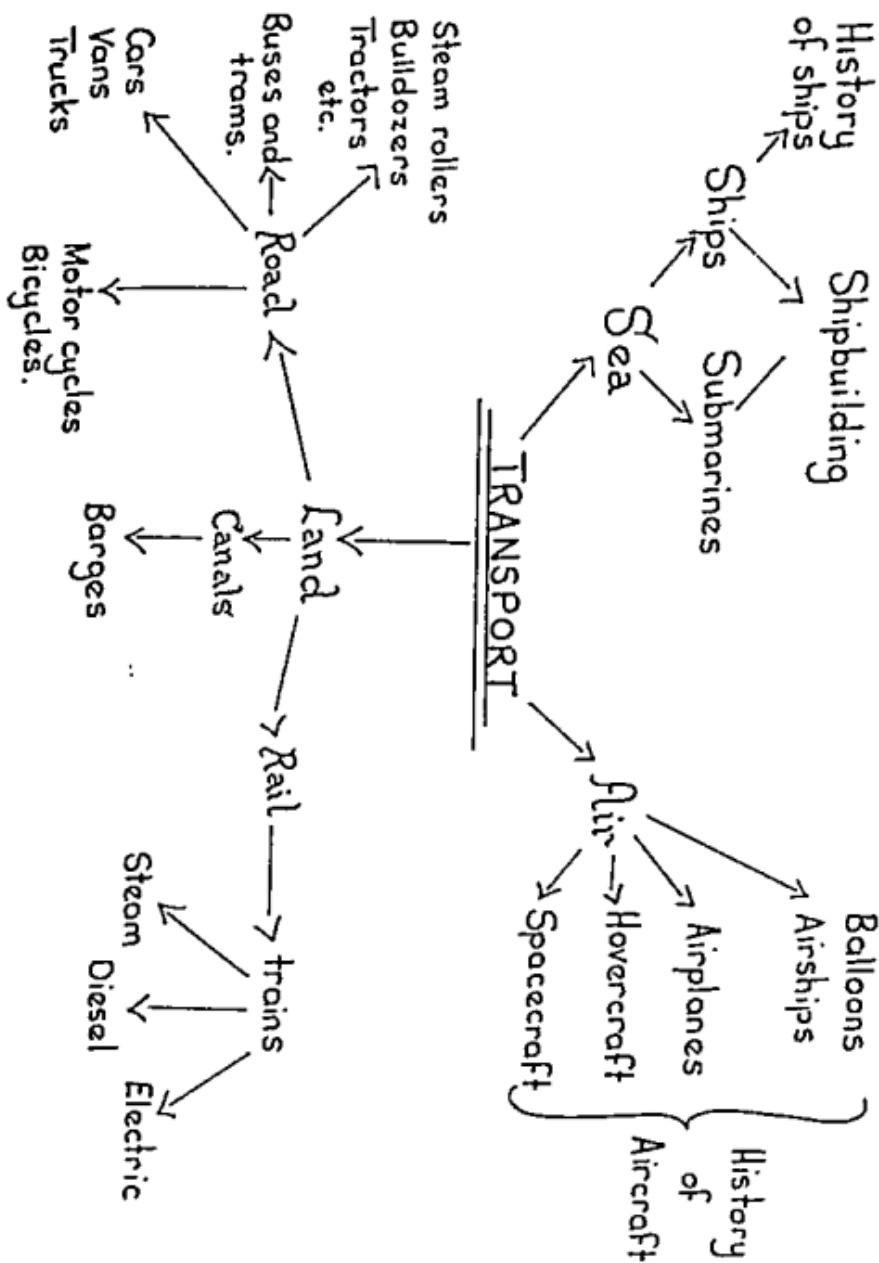
Lists were made and some children made graphs of the information and others drew pictures.

From here we went on to list the different methods of transport ever experienced by the children. This was more complicated, but we listed named and made columns for the different means of transport and checked the appropriate columns. Some children had little signs to represent the different items. (Most children had had experience of riding in cars and buses, but fewer of trains and boats. Only one child had flown.)

The children had many ideas about which was most exciting, more expensive, fastest, noisiest, etc. We discussed some of the reasons behind our information and began to collect material to form a display including drawings, models, graphs and books. Together we built up the following diagram.

For the execution of this particular project, the children divided into 3 main groups:

1. Land
2. Sea
3. Air



Having had class discussions on the early forms of transport and development of power, the children grouped themselves within these three main groups. Having drawn up the various aspects of each section, they checked with the teacher to see if they had left out anything which could be incorporated.

From the children's lists, cards were sent out which were put on the display board. Each child checked the items he or she wished to tackle (one at a time) so that there were not too many overlaps.

Each group had a folder into which were put finished pieces of work. Various sub-groups kept folders into which were put unfinished work so that the papers were not mis-laid or spoilt before the children came back to them.

Some children elected to make individual books on one aspect of the subject, e.g.:

The History of the Wheel

Sailing Ships

The Wright Brothers

It is the responsibility of the teacher to see that each child tackles some written work and some artistic work. If left to their own devices, children will choose what comes most easily to them and only what they enjoy. However, in this kind of work, they can often be persuaded to tackle things they find more difficult because they can see the task in relationship to what they are doing from choice. E.g., a child who has a flair for modelling and little interest in writing will write more enthusiastically if asked to write about the model and how it was made for the display.

Likewise a child who thinks he cannot draw or paint can sometimes enjoy trying to copy a picture to help illustrate information he has been thrilled to discover.

It is often thought that children will more readily draw than write, but this is not so. Children should have every opportunity to develop both skills and although one is usually developed to a higher standard than the other, neither should be allowed to be completely disregarded. Usually it is a matter of confidence building and, with drawing, improvement is a direct response to practice.

There must be quiet times when children can concentrate on the content of their writing but most of us to-day have to become used to working against some background disturbance. Children seem to manage this very well but I think there should be at least part of each day when quiet prevails and children consciously find occupations which will not disturb others.

This kind of organisation depends entirely on the teacher, but I find, that in order to check that individuals are working a balanced programme in Environmental Studies, the children must have some idea of the organisation and know how much is expected of them. This cannot be the same for each child, therefore a careful check must be made to ensure that children are not themselves setting standards lower than those they can attain. (In my experience, this kind of work often results in children setting and achieving standards beyond those of which they think they are capable.) By having a quiet time with everyone in a

certain place and working individually, the teacher has an opportunity of getting around, talking to the children, and giving assistance where it is needed.

At times during a project of this size, the teacher is needed to help in presenting work in some sort of order. From time to time the children in each group need to gather their facts together to see where there are gaps. Although they should never be discouraged from going as far as possible in their research, a teacher sometimes has to step in to re-direct them or they become overwhelmed by complicated information and the enormity of the subject.

The teacher is important as a mediator as he can see where one group can be of help to another with reference material, etc.

At the end of a project I discuss the presentation with each group. I think that each child should be involved in the final presentation. For some children this means overcoming the fear of speaking out before a group. If they can master this fear among their peers, it is easier for them in the future. Most groups of young children need adult help before this kind of presentation. They need to be prepared on such things as:

1. Not holding up items for inspection which are too small to be seen by more than the few children at the front.
2. Speaking clearly.
3. To speak about what they have found out and where and how they found it — not just to read the items.
4. To attempt to interest the children in the work so that they will look at the displays and read the books which have been produced.

The teacher must usually choose a member of the group who will round off the presentation so that the group giving the report does not fade away into embarrassed silence, or worse still, nervous giggling.

As the children gain confidence they become more efficient at this type of work but at first the work-load falls mainly on the teacher. During a year with this age group more and more of the responsibility can be shouldered by the children themselves.

It is comparatively easy to arrange visits in connection with a topic of this kind. The least complicated field trip is to the nearest main road where a traffic census can be carried out.

A ride on a double decker bus is not difficult to organise in a city or town in Great Britain and we often use trains to take us on longer excursions.

Last year to widen our experiences in the line of transport we spent one morning in a pleasure cruiser on a canal in an Inland Waterway System, and another at the East Midland Airport where we took a 35 minute ride in a D.C. 9.

No one could dispute the enjoyment and excitement obtained from these two trips, and the amount of work the children produced when back in the classroom was ample reward for the time and energy spent in organising them.

In connection with the Air Trip, the children made air tickets and cards for their baggage. We built an airport and learned about Air Traffic Control, ground procedures, etc.



*Gathered on the steps of the 'plane after the Air Trip*

Some children bought construction kits of airplanes and built and painted them. These we hung from the ceiling in the classroom.

This year, 1972-1973, I have a student teacher working with the class and studying Transport (10-11 years olds). We plan to take the children to a local Tramway Museum.

Quite incidentally, we received a notification that British Rail was organising an excursion to Southampton to visit the ship, Q.E.2, on June 9th. This could not have come at a more convenient time. We took 45 children (3 staff) on the excursion. The cost of the whole day to the children was under \$5.00 (the staff went free of charge).

We had a Private Coach from school to the Railway Station. We left school at 7.25 a.m. and the Special Train left Nottingham at 8.00 a.m. There was a buffet car on the train and restrooms at the end of each carriage. As this was an excursion train we travelled a round-about route. The distance from Nottingham to Southampton is 158 miles, but travelling via London the journey took 4½ hours. Circling London we were able to notice well-known buildings on the skyline and once to the west of the city, the children were delighted to watch the activity around Heathrow Airport, and we whised away the last hour by eating packed lunches.

We had boarding cards for the ship and waited in the Departure Lounge before boarding. This was all that was needed to spark the imaginations of the children. Many of them were pleased to pretend that they were about to sail to New York. I must admit I could have easily convinced myself.

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Fifteen minutes later we returned to the classroom and she handed round dried seaweed for them to taste. After this she opened her calligraphy set and began to work the ink-stick into water. While she did this, she explained to the watching children that this kind of brush writing is an ancient art and that she would work on hand-made paper. She also told the class that when boys and girls learn this skill in school in Japan, they are taught to be silent in order to collect their thoughts and concentration. Something in the gentle voice seemed to have hypnotised my normally exuberant group. There was a silence I had never before experienced in the classroom. The children were fascinated. After ten minutes Mrs. W — left the children to try for themselves while she set out origami paper for others to fold. There was enough for everyone. The afternoon ended with Mrs. W — singing a Japanese lullaby. There was a moment's silence before spontaneous applause.

A week later, in reply to our thank you letter, came a Japanese Calendar with large coloured photographs.

It was about this time that the second coincidence occurred.

The pamphlets for the Radio Music Programme arrived and the study for the Summer Term was to be *Hagoromo*, a setting of a Japanese Noh Play.

The children followed the broadcasts with the help of a pamphlet containing music, verse and illustrations. With these, the children could sing the choruses and accompany with instruments. Later they were able to act out some of the dialogue and make up dances and mime.

The story told of fishermen who could find no fish and met up with a spirit who tells them that the cloak of the wind, *Hagoromo*, belongs to her and cannot be understood by men.

The children were able to follow simple accompaniments on recorders, glockenspiel and xylophones and make rhythms with unpitched percussion. They were encouraged by the broadcaster to experiment with their own accompaniments.

The end result was suitable for performance to the school audience and their friend, Mrs. W —.

By this time the children were learning more and more about the life of these colourful people of the Orient.

To help with their understanding of facts, and use of strange words, I made a board game for the children.

There is a map of Japan and a winding path around the boards ending with a picture of the Ginza in Tokyo. The path is divided into squares, some of which are blocked out and others cross-hatched. There are pictures stuck on to correspond with the block-out squares with instructions beside, e.g. Paddy Fields, Stop to watch work, Miss 2 turns, The Golden Pavillion, Climb to the top, Miss a turn, etc. The idea of the game is for three to four players to shake a dice and travel with counters to the capital, Tokyo. Sometimes there is a choice of ways with an identical number of hazards. On cross-hatched squares, the children have to take a Chance Card. On these are printed questions connected with their studies, e.g.:

What are the wooden shoes called?  
How high is Mount Fuji?

The answers to these questions are on the back of the card so that children who do not know them can learn them. The penalty for not knowing the correct answer is to miss a turn. New cards are added from time to time.

This type of activity seemed to help reinforce the facts learned by the children.

The display which developed from this study was particularly decorative with the Origami work and models. Some of the Japanese folk tales intrigued the children and the illustrations enhanced their work.

### THE THEATRE (Project taken with 34 — 11 year olds)

Children love acting and each year there is some drama performed as part of the School Concert.

One girl in the class was an avid reader and had begun to take an interest in William Shakespeare. During a class discussion she said wistfully how much she would like to visit Stratford-upon-Avon.

The discussion was expanded and the children showed an interest in the theatre in the Elizabethan Period. We decided to find out all we could about the Theatre.

The children were given a week to find information and I wrote the various theatres throughout the country:

- The Shakespeare Memorial Theatre
- The Nottingham Playhouse
- The Royal Opera House, Convent Garden
- The Mermaid Theatre, London
- The Yvonne Arnaud Theatre
- The Haymarket, London.

One of the children decided to write to the British Broadcasting Corporation (B.B.C.) to find out about dramatic productions for radio and television. We collected post cards of Greek and Roman Theatres, Inns with courtyards where strolling players performed prior to and during the Elizabethan Period, and Modern Theatres.

We made a display from the information received from theatres, e.g. post-cards, sheets on the history of the theatres, pictures of costume design, programmes and tickets.

Each child had a plain paper book of between 10 and 15 pages in a plain coloured card cover. These were entitled, "The Story of the Theatre." The children decorated the covers and many chose to use the masks of Comedy and Tragedy, having discovered that these were the symbols used by the World of Drama.

At the beginning of each lesson I would read and tell the children about a different stage in the development of the theatre. The children would add any relevant information they had on this subject. The children, in their own words and with their own illustrations, prepared notebooks on what they had learned.

We were on board this magnificent piece of modern design for just over two hours. We were guided on our way by stewardesses and were walking nearly all the time. In every lounge and cabin we tested the chairs and beds and the eyes of the children grew larger and larger.

Such remarks echoed throughout the tour as, "Coo, isn't it big?"

"I can't believe that there's water down there!"

"Isn't it posh?"

"I'm going to save and save to come on here."

The children happily snapped pictures with their cameras and fell eagerly on the post cards and souvenirs which were for sale. Not one of the children was disappointed. Even one boy who had travelled extensively around the world had not been on a ship so large before. Their enthusiasm was delightful.

We then took a trip around The Solent on a small cruiser and sailed beneath the bows of the ship. We were fortunate enough to be in Southampton when there were 14 ships of a fair size in dock. We drank our tea on the pier and watched the activity of the docks before returning to the train at 5.45 p.m.

We arrived back in Nottingham at 10.30 p.m. where the children were met by parents. As they scrambled from the train the children's cheeks were flushed and their eyes bright. This and the comments of appreciation from the parents made the day seem very worthwhile.

On return to the classroom the children were anxious to discuss all they had seen. Many had noticed minute details and some of the art work was excellent.

Apart from the academic results this was an experience which will remain with these children for a very long time. They now follow information on shipping with avid interest and they have an understanding of a life which before was unknown to them. They were amazed to learn that a pent-house accommodation was being prepared because there were people who wanted more luxurious service than that provided in first-class.

I know that similar tours can be made over Boeing 747's and although this visit can only be made if the school is relatively near an airport, some visit of this kind can usually be made in connection with this project.

### JAPAN (group of 42 — 10 years olds)

(This is a study of one particular country which can be made with a class. This kind of study can be made about any country, but I find that one which has an entirely different culture from that of the children's has greater appeal.)

This study was tackled in yet another way. First we studied maps to recognise the islands of Japan. The children enjoyed turning their tongues around the names of Hokkaido, Honshu, Kyushu and Shikoku. At the time of this study the Winter Olympics were being held in Sapporo, so the children were in daily contact with Japan on radio and television. We learned to recognise Japan on a World Map, on the Globe and in relation to her near neighbours.

I read the children a book entitled, "The Young Traveller in Japan." This tells the story of two English children who lived for a year in Japan. It is told so that the reader can identify with the children and meet the new experiences with them. In an interesting story, the buildings, the style of dress, the food eaten and the entertainments enjoyed are vividly described.

We wrote to the Japanese Embassy and received large quantities of posters, books and pamphlets.

The first thing to fascinate the children was Mt. Fujiama. Many of them had seen illustrations of the extinct volcano and its beautiful shape appealed to them.

We had discussions after the first two chapters of the story on what differences we would expect to find in the everyday life in Japan. By this time, information was pouring in from various sources. Some children had found items made in Japan — some china, wooden bowls, dolls and chopsticks. We put these on display.

Each child made a folder and decorated the cover. Most chose to write the Japanese word Nippon or to write Japan in Japanese Characters. Some wrote these with brush and ink.

We started these folders with a map of Japan on which we named the four main islands and the Capitol City, Tokyo. We used these maps to add names of towns we came across in the story. Some children built model maps.

From this point the children wrote on subjects as the story dealt with them. Those aspects of the study which held more interest for the individual were worked at more intensely by them. The children used the school and general libraries for extra information and were able to cut up travel brochures to illustrate their work.

On subjects such as the Festivals, Religious Ceremonies, Sport, Drama and Music, we worked together as a class. The children made flags, lanterns and Origami figures. They built temples, dressed dolls and made collage pictures.

Two coincidences occurred during this project on Japan. The first was that very soon after we started our study, a friend of mine told me of an acquaintance who is a Japanese woman married to an English man. She thought Mrs. W — would be happy to visit the class.

I contacted her and this was the beginning of a friendship between her and the children which was to last throughout the rest of the year.

We arranged a time when Mrs. W — would visit the classroom and the children were warned that she might come in her national dress and that, although she would answer questions, they must be careful not to be too personal.

Mrs. W — indeed arrived in national dress and also, to the delight of the children, brought three children's costumes for them to try on. In her quiet lilting voice she told them about her home in Japan and wrote the Japanese alphabet and some of the Characters on the blackboard. She laid out lacquered bowls and fans for them to look at and also her calligraphy set. For over an hour she had the children spellbound. I was afraid that I had been too forceful in my instructions about politeness! I need not have worried — the children asked many questions. We sent them out for recess and Mrs. W — swallowed a much-needed cup of tea.

Fifteen minutes later we returned to the classroom and she handed round dried seaweed for them to taste. After this she opened her calligraphy set and began to work the ink-stick into water. While she did this, she explained to the watching children that this kind of brush writing is an ancient art and that she would work on hand-made paper. She also told the class that when boys and girls learn this skill in school in Japan, they are taught to be silent in order to collect their thoughts and concentration. Something in the gentle voice seemed to have hypnotised my normally exuberant group. There was a silence I had never before experienced in the classroom. The children were fascinated. After ten minutes Mrs. W — left the children to try for themselves while she set out origami paper for others to fold. There was enough for everyone. The afternoon ended with Mrs. W — singing a Japanese lullaby. There was a moment's silence before spontaneous applause.

A week later, in reply to our thank you letter, came a Japanese Calendar with large coloured photographs.

It was about this time that the second coincidence occurred.

The pamphlets for the Radio Music Programme arrived and the study for the Summer Term was to be *Hagoromo*, a setting of a Japanese Noh Play.

The children followed the broadcasts with the help of a pamphlet containing music, verse and illustrations. With these, the children could sing the choruses and accompany with instruments. Later they were able to act out some of the dialogue and make up dances and mime.

The story told of fishermen who could find no fish and met up with a spirit who tells them that the cloak of the wind, *Hagoromo*, belongs to her and cannot be understood by men.

The children were able to follow simple accompaniments on recorders, glockenspiel and xylophones and make rhythms with unpitched percussion. They were encouraged by the broadcaster to experiment with their own accompaniments.

The end result was suitable for performance to the school audience and their friend, Mrs. W —.

By this time the children were learning more and more about the life of these colourful people of the Orient.

To help with their understanding of facts, and use of strange words, I made a board game for the children.

There is a map of Japan and a winding path around the boards ending with a picture of the Ginza in Tokyo. The path is divided into squares, some of which are blocked out and others cross-hatched. There are pictures stuck on to correspond with the block-out squares with instructions beside, e.g. Paddy Fields, Stop to watch work, Miss 2 turns, The Golden Pavillion, Climb to the top, Miss a turn, etc. The idea of the game is for three to four players to shake a dice and travel with counters to the capital, Tokyo. Sometimes there is a choice of ways with an identical number of hazards. On cross-hatched squares, the children have to take a Chance Card. On these are printed questions connected with their studies, e.g.:

What are the wooden shoes called?

How high is Mount Fuji?

The answers to these questions are on the back of the card so that children who do not know them can learn them. The penalty for not knowing the correct answer is to miss a turn. New cards are added from time to time.

This type of activity seemed to help reinforce the facts learned by the children.

The display which developed from this study was particularly decorative with the Origami work and models. Some of the Japanese folk tales intrigued the children and the illustrations enhanced their work.

### THE THEATRE

(Project taken with 34—11 year olds)

Children love acting and each year there is some drama performed as part of the School Concert.

One girl in the class was an avid reader and had begun to take an interest in William Shakespeare. During a class discussion she said wistfully how much she would like to visit Stratford-upon-Avon.

The discussion was expanded and the children showed an interest in the theatre in the Elizabethan Period. We decided to find out all we could about the Theatre.

The children were given a week to find information and I wrote the various theatres throughout the country:

The Shakespeare Memorial Theatre

The Nottingham Playhouse

The Royal Opera House, Covent Garden

The Mermaid Theatre, London

The Yvonne Arnaud Theatre

The Haymarket, London.

One of the children decided to write to the British Broadcasting Corporation (B.B.C.) to find out about dramatic productions for radio and television. We collected post cards of Greek and Roman Theatres, Inns with courtyards where strolling players performed prior to and during the Elizabethan Period, and Modern Theatres.

We made a display from the information received from theatres, e.g. post-cards, sheets on the history of the theatres, pictures of costume design, programmes and tickets.

Each child had a plain paper book of between 10 and 15 pages in a plain coloured card cover. These were entitled, "The Story of the Theatre." The children decorated the covers and many chose to use the masks of Comedy and Tragedy, having discovered that these were the symbols used by the World of Drama.

At the beginning of each lesson I would read and tell the children about a different stage in the development of the theatre. The children would add any relevant information they had on this subject. The children, in their own words and with their own illustrations, prepared notebooks on what they had learned.

This put the responsibility for the amount produced onto the individual. During "free choice" periods during the week or at any other time when the children were able they could continue and add to their work.

We divided the work into:

1. *Theatres of the Ancient Greeks and Romans*

(Some of the children made copies of masks used in these times.)

2. *The Middle Ages*

3. *The Guild Plays*

Most interest was shown in this section. Children learned how the craftsmen, such as shepherds, bakers and weavers were each responsible for performing one of the cycle of plays performed on the Feast Day of Corpus Christi. Each guild (clubs to which the craftsmen belonged) was responsible for a particular story. For example, in the ancient city of York, the Shipwright's Guild was responsible for the story of Noah and the Ark; the Barbers acted John the Baptist, and the Goldsmiths took the part of the Three Kings. These plays were known as "Mystery Plays", performed on carts (called pageants) which were dragged from one part of the town to the next. The feast of Corpus Christi was a holiday and the people of the town gathered at vantage points to watch a play which would then be trundled to another part of town and another wheeled into its place. In this way, during the course of the day, the people would see the cycle of plays performed each on its own cart.

One child brought to school a shoe box and transformed it into a "pageant." He turned the box upside down and cut out one side, fixed a wire across and sewed curtains for the section where the actors changed. He fixed four cardboard wheels at the corners. He then cut four strips of stiff card which he pushed through the corners of the box to rise about six inches above the "platform." Onto this he balanced the lid of the shoe-box. He and a friend cut a frill to go round, some steps were made and cut out models for the scene of the Shepherd's Play.

This caught the imagination of the children and some looked up the complete list of guilds and plays. The class worked in pairs and we soon had a complete cycle of pageants. The biggest problem was storage — we had to take over the display area in the main corridor for a time. The children then set to and wrote out the Bible stories shown and displayed those on zig-zag folders beside the pageants.

The forty-eight plays from the York cycle have been translated into modern English and are acted every fourth year in the City of York and many children became so interested that they visited them in 1973.

4. *Shakespeare*

The tourist centre in Stratford-upon-Avon was able to provide many postcards of the Bard and the Shakespeare properties and we bought cut-out models of some of the properties and the Globe Theatre and assembled them in the classroom.

The Memorial Theatre provided us with information, past programmes, and pictures of famous actors and actresses in costume.

The children looked up simplified stories of some of the better known Shakespeare Plays.

We arranged a Field Trip to Stratford for April 27th. This being the week after Shakespeare's birthday we knew that the town would be festive but not too busy.

At this point I began to read a serial story, called "Brother Dusty Feet" by Rosemary Sutcliffe, which tells the story of a boy who runs away to join a band of strolling players.

The children enjoyed hearing about the cost of theatre going in those days, the production of sound effects, and the behaviour of the audience.

#### 5. *The 'Commedia Dell' Arte*

The Italian players who introduced Pulchinella and Harlequine and Columbine.

The children followed this with research into "Punch and Judy" shows and English Pantomime and all its traditions.

#### 6. *Modern Theatre, Television and Cinema*

When we had completed these topics I made a set of work cards on each main item we had studied, e.g.:

Explain who these people were and how they acted the plays.

Find a way to set up your own model characters in this play so that you can act it.

Write a short version of the story of Harlequin and Columbine.

Explain each character.

During the "lazzi", or short interval, there was another form of entertainment.

Write about this and draw some pictures.

The children cut the figures out of stiff card and mounted them on long strips of cardboard so that they could be pushed on and off a table sized cardboard stage.

They made a poster advertising the play with immaculate drawings of the characters around the edge.

They enlarged the story and wrote out scripts. The finished performance was enjoyed by the rest of the class.

The group doing the Music Halls had a similar idea and went further in dropping down background scenery.

Two boys of average ability went to endless pains on the presentation of how a television drama reaches us in our homes. They made drawings and diagrams showing the work of the technicians and the details of how a television camera works.

### THE SIX WIVES OF HENRY VIII

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What did they mean by "do"? I thought that they would just write about the programmes they saw and they thought this was an easy option. How I underestimated these two little girls!

I jotted down some of the items which came up as we talked about it, e.g. costumes, historical events, language and scenery.

Anne and Debra went to endless pains over this project. Each Monday would see them arriving at school with all the daily papers they could gather. The cut out the reviews of the programme to illustrate their work. Many magazines produced articles on the cast, none of which seemed to escape these two.

They then asked for school notepaper to write to the Stately Homes mentioned in the programmes. They found out where the portraits of the six queens were and wrote to obtain postcard reproductions. They even wrote to Her Majesty the Queen to see if they could gain any information on the Royal Predecessors. They wrote to the B.B.C. for extra information.

The children received replies to all their letters and some of them were charming. The one we really treasured was from Lord Gavin Astor of Hever Castle (home of Anne Boleyn). He wrote a personal letter wishing the children every success with their project and enclosing a coloured picture guide to his home. The children were delighted.

The book grew and the class became more and more interested in the history of the time of Henry VIII. The school became involved because the Head Principal began presenting the girls with their mail in Morning Assembly. He joked that they received more than he did!

They found a typical menu of the time and also learned that Henry VIII is thought by some to have written the folk tune "Greensleeves." They found some manuscript paper and copied the tune.

They made a "Diary of Events" in the reign of Henry VIII and added it to an envelope in the folder.

As well as detailed studies on the characters portrayed, they wrote about the people playing the parts and made drawings of the costumes, drew maps showing the houses of the six queens, and Henry's travels at war. They stuck the reproductions of portraits beside the postcards of the queens in the series.

The finished product was presented to me at the end of the school year and it is a piece of work I shall always treasure. In return I had copies printed for the two children. They couldn't understand why I preferred the pencilled copy to the typed one!

Many of the children watched some of the programmes but only six of them saw

all the series. I took those six to London on the train to the Victoria and Albert Museum to see the display of costumes used for the series. The children were fascinated to see the various sizes in the costumes of the King. Music from the series was played and at the end of the gallery were standing wax models of the King and his six wives in realistic pose before a window in the Palace.

From this journey came yet more work from these children, their imaginations having been triggered anew by what they saw.

During this time Anne began a new long story book. She called it "The Six Brides." She wrote 54 pages on the lives of the six wives, told by a maid who came from Spain with Catherine of Aragon when she arrived to marry Prince Arthur. (She must have been an excellent maid for she passed from one queen to the next and outlived the first five!) Shortage of time forced Anne to terminate her story with ill health being the cause of her return to Spain to spend her last days with her family. The time was 3.45 on the last day of the school year and the last day Anne would be in Primary School!

#### FIELD TRIP TO STRATFORD-UPON-AVON

Stratford-upon-Avon is 73 miles S.W. of Nottingham. We hired a coach and left school at 8.45 a.m. We made one stop for rest-rooms and arrived at Anne Hathaway's Cottage just outside Stratford shortly before 11.00 a.m.

The gardens are laid out as they would have been in Shakespeare's time and the children enjoyed the plants, some of which they had never seen before. They also enjoyed seeing the old house with low beams and old fashioned furniture.

We travelled from there to a Parking Lot near the Memorial Theatre. We met the House Manager at the Stage Door. He is a young man who is keen to encourage young people to take an interest in the Theatre. He had written saying that he would show the children the inside of the theatre during the lunch hour.

There was to be a matinee of Henry V during the afternoon and the children were allowed on stage. They could sit on the throne and hold the swords. This thrilled them. The house lights were dimmed so that the children could imagine what it is like to play on a lighted stage. The more imaginative immediately lost themselves in a dream world. We went behind the scenes and saw the traps and lighting arrangements. Many children came away looking forward to their first visit to a production in the future.

We then ate packed lunches on the bank of the river and walked through the town to Shakespeare's birthplace passing the school attended by William Shakespeare.

Before leaving school we had studied maps of Stratford so that the children knew where they were going. They had seen pictures of the Shakespeare Properties and had items to look out for. As always, the children had been reminded that they must always walk (not run), not touch anything on display, and ask permission before leaving the group for any reason.

As usual on journeys with older children, they are asked to look for various landmarks on the outward journey to check when they see them and write down

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As usual on journeys with older children, they are asked to look for various landmarks on the outward journey to check when they see them and write down

the time if they have a watch. This helps plot a time/distance graph and is something to help occupy the children.

I usually give them something to do on the return journey also. Often with the older ones this takes the form of a crossword compiled from items to do with the visit.

We arrived back at school about 6.45 p.m. Parents usually arrange to meet children after such an excursion.

The day after our Field Trip was devoted to Art and Craft. All materials were available to the children and they had a free choice. Most children chose to do some sort of creative work. Some set off on pieces of work which took several days to complete, others managed several small pieces of art. Some chose to write, many managed both.

Most of the rest of the week and some time during the next week the children were carried along stimulated by the visit.

There were drawings and paintings of the properties and characters from plays.

Some children wrote factual accounts on the outing or descriptions of things they had seen. Others chose to write creatively. One girl wrote as if she were an actress playing "Juliet" at Stratford. Another wrote as if he were the young Will Shakespeare. Several, inspired by the old buildings, wrote as if they were living in days gone by.

## CLUES

### *Across*

1. and 74. Word before single item.
3. First name of a contemporary of Shakespeare.
4. Colour of the skin of the Moor called Othello.
7. Mary Arden knew it well.
10. A man from Venice.
15. Shakespeare was one.
16. and 44. and 85. down. Opposite to Yes.
17. A wooden shape.
18. A belonging of Anne Hathaway.
20. Thane of Glamis.
23. and 3. down. "To -- or not to"
25. and 43. down. "-- you like it"
27. The one here is a Memorial to a playwright.
29. Hamlet was surprised to see one.
33. Stratford is situated in this county.
37. Plural of I.
39. Shakespeare did this to London.
40. -- fame spread round the world.
41. It runs by here and helps give the name to the town.

Crossword Puzzle for visit to \_\_\_\_\_  
Stratford-on-Avon.



42. and 89. Some young boys did this from home to join strollers.  
 45. To acquire.  
 46. Stratford, like all towns, has one (abbreviation)  
 49. -- Shakespeare Centre is a new building.  
 51. and 55. Masculine singular of they.  
 52. People come to Stratford by land, sea and ---.  
 53. 57. and 64. across and 47 down. As well.  
 58. --- a few pence were needed to see a play in Shakespeare's day.  
 60. Our destination.  
 63. Not even.  
 65. One can be seen at the Theatre.  
 67. "... is well that ends well."  
 68. across, 36. and 38. down. Stratford is said to be this with the Avon.  
 69. The Theatre is situated -- the river.  
 71. A note without a letter.  
 72. "Shakespeare was his father's".  
 73. One was cheap at the Globe compared with today.  
 76. An old English word for you.  
 77. Singular of us.  
 80. Prince of Denmark.  
 81. Many people come each year to -- a play.  
 82. Sheep is one, this is another.  
 84. across and 78. down. Name of Shakespeare's wife.  
 86. Those who are afraid have this.  
 87. Little was ---- for watching a play at the Globe.  
 88. across and 9. down. "Twelfth Night" ---- "What you Will."  
 90. Shakespeare decided to --- to London.

### CLUES

#### *Down*

2. This man gave his name to a bridge.  
 5. Are able.  
 6. The wooden 'o'.  
 7. One of 3.  
 8. The strolling players came into town accompanied by one.  
 11. An Age.  
 12. Young fox.  
 13. Play writing is considered to be one.  
 14. - 3 down or 71 across - 3 down.  
 19. A common drink.  
 21. A shortened form of 18 across.  
 22. - Croft.

24. The Bard.  
 26. One of these would take the part of a woman.  
 28. A strolling player would do so after a long walk.  
 29. Surname of the man who gave the statue in front of the Theatre.  
 30. After the eleventh night.  
 31. 2 down gave his name to this.  
 32. One in midsummer when a dream occurred.  
 34. Water flowing through the town.  
 50. Plays are this in a theatre.  
 52. A play usually has more than one.  
 54. Shakespeare set off on one.  
 56. One of several you will see on the river (2 words)  
 57. A forest which gave its name to several places in the district.  
 59. Belonging to you!  
 61. A character on the statue of 29 down.  
 62. Lear was one.  
 65. Shakespeare was believed to be one - perhaps his reason for departure?  
 66. I hope - you have enjoyed your visit.  
 70. - actor.  
 73. Stratford is a place which should be -  
 75. Perhaps the reason of Shakespeare's slip with the laws. (See 65 down.)  
 77. A drink made from honey.  
 79. A ruler who had 3 daughters.  
 83. Shakespeare lived over 400 years -

## MATH

*Together we made a list of the children in the class and gathered the following information:*

1. Those children who bought postcards and the number
2. Those children who bought books and the number
3. Those children who brought souveniers and the number
4. How much each child spent on:

postcards

books

souveniers

I then asked the children the following questions:

How many children bought postcards?

Did anyone not buy postcards?

How many children bought books?

Did anyone not buy books?

How many children bought souveniers?

Did anyone not buy souveniers?

Did anyone buy nothing?

Did anyone buy some of each?

Who spent the most?

Who spent the least?

Are there any people who spent the same amount on

- a) postcards
- b) books
- c) souveniers
- d) All of them?

I asked the children to construct pictorial representation of the above information to explain the answers to the questions. I then asked them to see if they could find any more information from their pictorial representations.

We then looked again at the map and found the places through which we had passed on our journey. We made notes of time and the children worked out the distances covered and the time taken.

Some children drew maps of the town of Stratford and marked on the theatre and the Shakespeare properties.

The work the children completed on the Field Trip including finished crosswords, together with mounted postcards, tickets and programmes and models made a delightful display.

The display on "The Theatre" had to be mounted in the corridor. Each group selected pictures and writing for each section so that a line of history was followed. Some of the puppet characters were mounted and free-standing models were displayed on tables. Some of the individual books, "The Story of the Theatre" were hung from the display board.

#### TOPIC WORK THROUGHOUT A YEAR

(This is a cross section of topics studied in Environmental Studies during 1971-72.)

##### 1st YEAR STUDENTS

- Prehistoric Life (Dinosaurs)
- Hot and Cold (Eskimos - Jungles)
- Red Indians
- France
- Cave Men
- Pirates
- Australia
- The Sea

##### Field Trip: The Zoo

##### 2nd YEAR STUDENTS

- The Animal Kingdom
- Volcanoes
- The Saxons
- Coal
- Everyday Things — Sugar, Tea, Cocoa, Milk, Bread
- Victorians
- Minerals

**Field Trips:** London — Post Office Tower  
Birmingham — Science Museum  
Derbyshire — caves and lead mines  
Theatre Visit

**3rd YEAR STUDENTS**

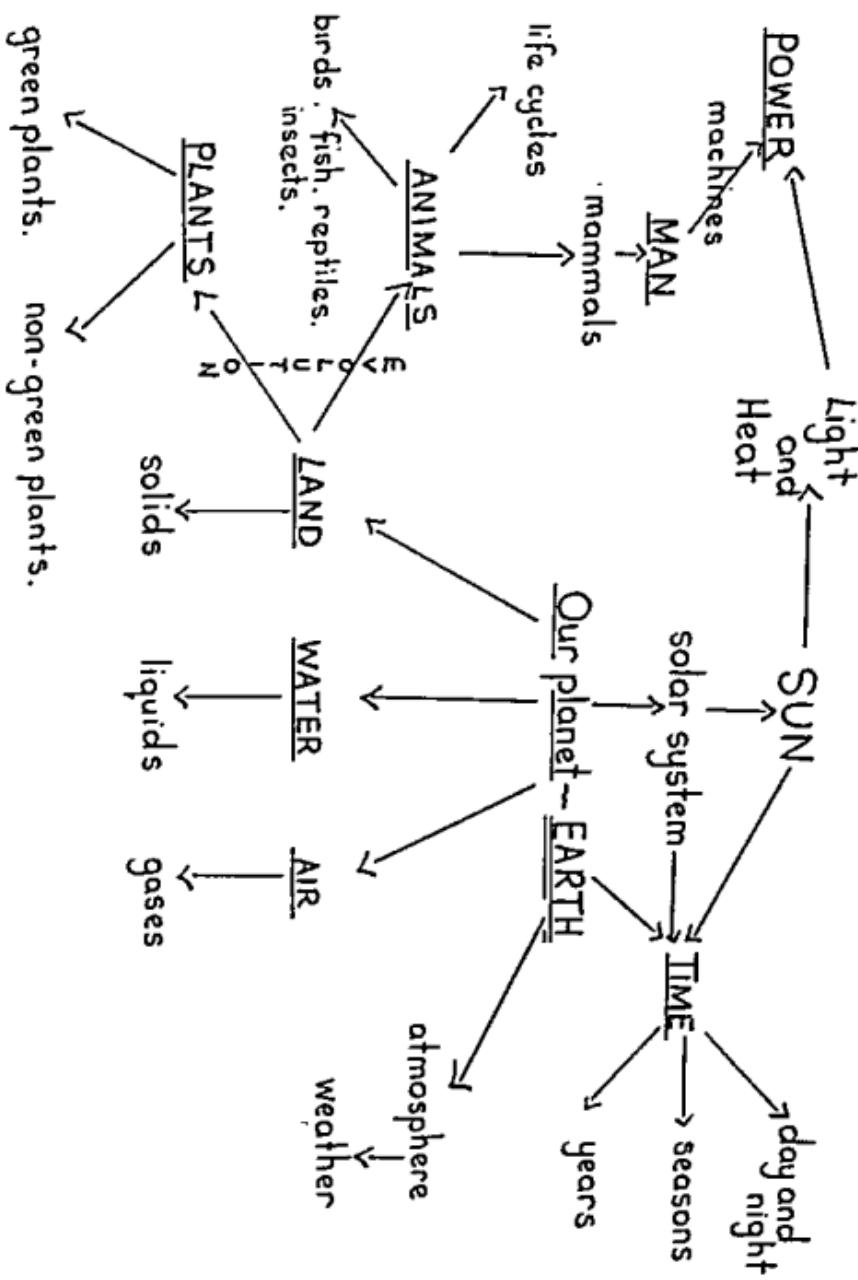
Air and Flight  
The Egyptians — Tutankhamun  
York — a walled city  
Our Planet (including weather)  
The Body  
London  
The Tudors  
Communications — including canals

**Field Trips:** London Natural History Museum  
York  
A journey along a canal  
Tutankhamun Treasures at the British Museum  
Theatre Visit

**4th YEAR STUDENTS**

Polar Regions  
Castles  
Homes through the Ages  
Trees  
Japan  
Transport  
Ancient Greece  
Farming  
Planning a Holiday

**Field Trips:** Kenilworth & Warwick Castles  
New Gardens }  
Planetarium } London  
A Farm  
Air Trip on a B.A.C. 111  
Conventry Cathedral  
Concerts and a visit to the Cinema



# Eight

## Discovery

**D**ISCOVERY is the title given to cover the sciences taught in the Primary School.

The sciences which can be taught best are those which arise naturally from the children's environment.

The children can be taught to be observant and question the world they see around them.

Nearly always children have a natural curiosity about how things work. Besides the natural environment they see around them, there is the complicated structure of the "man-made world." The study of these is a continuous process but time can be given in school for follow-up work.

Often the observations will lead children to books for further information and sometimes it is the information found in books or provided by radio or television which will inspire children to start on further investigations for themselves.

Many studies made in the classroom come either from an interest shown by one of the children or one which follows a particular interest of the teacher.

In most schools it is relatively easy to observe the natural changes in the seasons, study the weather, and grow plants. Many schools keep pets such as rabbits or guinea pigs so that the children have first-hand experience of observing the growth, development and habits of living creatures.

It is from observing, recording the observations, and learning to draw conclusions from them that is the beginning of "science."

Children love to "play" with magnets, lenses, pulleys, levers, etc. and can carry out experiments with these in the classroom. Some children learn a great deal through this play, but others demand a more structured approach. Here again, the children will reap more benefit from an individualised programme.

The teacher is needed to step in and direct but often the mistake of giving the children the answer before the question, is made when teaching science. This ruins the true sense of discovery, of finding out.

The complexity of science sometimes leads to children getting "out of their depth." They should never be allowed to struggle for too long without help. Often another question will help to set them on the correct line of reasoning.

Ideally, a classroom should have a variety of science equipment with which to work. With these they should be able to conduct simple experiments to increase their knowledge of AIR, WATER, LIGHT, and perform simple experiments with electricity.

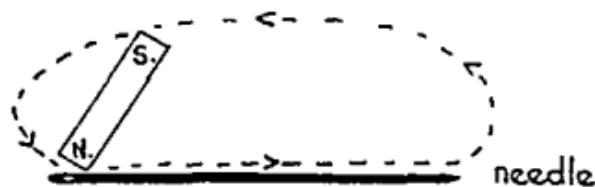
Cards can be provided to give initial instruction and questions which will lead

## Science Experiments

### Making a magnet.

Apparatus :- bar magnet. needle.

Put the needle on the table and stroke it in one direction only with the N. pole of the magnet, lifting the magnet high above the needle after each stroke.



Try the magnetized needle to see if it will attract iron or steel objects.

Draw and describe this experiment.

## Science Experiment.

To Find Which Materials are Magnetic.

Apparatus :- Bar magnet.  
8 different objects.

Test each object with a magnet.

Object	Material of which it is made.	Magnetic or non-magnetic.
I.		

Complete this table . From the results you obtain , complete this statement –

" Magnetic substances are ----- "

## Science Experiments.

### Water Clock.

1. Take an empty can with a small hole in it so that the water will just trickle through.

Fill the can with water and stand it on a glass jar.

2. Mark the level of the water in the jar after 5 mins., 10 mins., 15 mins.

You now have a water clock.

3. Try this several times. Do the 5 mins., 10 mins., and 15 mins. marks come in the same place each time?

4. Write down what you have found out. Use books to help you to discover other things men have used to tell time.

the children on to further observations.

Some teachers find it easier to make two kinds of cards:

1. Cards giving information and instructions to enable the children to prove this information.

2. Cards asking the children to "find out" from the information provided.

There should never be more than one experiment on one card. The children must be able to follow instructions and they become confused if asked to follow several lines of thought on one card.

If the cards are made by the teacher, they can be made to use the equipment available. Also extra cards can be made on subjects in which the children need extra experience.

Children should always be encouraged to repeat experiments in science. Comparisons of these results will lead to further inquiries. Eventually the children will become aware of the importance of accuracy in such work. They will learn that generalisations should not be made too readily.

Described are three very different pieces of work which I have worked at with 9, 10 and 11 year olds. These have been chosen because of the contrast between them.

The work of the first of these projects originally arose from the interest shown by a boy in a piece of information in a reference book; the second came from first hand observations in field work; the third is a study of weather which can be followed with any age group at any time of the year.

### OUR SOLAR SYSTEM

After reading about some of the planets, Alan asked questions about distance and size.

He had read that if Saturn is represented by a table tennis ball, then Jupiter would be the size of a golf ball and the Sun would have a diameter of 17 inches.

Alan asked if he and a friend could make a chart showing the relative sizes of all the planets.

Once he started, the rest of the class became interested and a general discussion began. We discussed size, distance from the sun, and next-door planets. Then we travelled on to speed in orbit and speed of turning on axes. The children came up with many ideas for plotting this information. It became obvious that we needed some standardization. The class was asked to wait until the next day, but in the meantime to find as much information as they could about each planet in our Solar System.

That night I made several cards for each of the following pieces of information:

#### DISTANCE FROM THE SUN (in millions of miles)

MERCURY	36
VENUS	67
EARTH	93
MARS	142

JUPITER	484
SATURN	887
URANUS	1,790
NEPTUNE	2,800
PLUTO	3,680

**DIAMETER AT THE EQUATOR**  
(in miles)

MERCURY	3,100
VENUS	7,700
EARTH	7,900
MARS	4,300
JUPITER	89,000
SATURN	75,000
URANUS	32,000
NEPTUNE	31,000
PLUTO	8,000 (probably)

**TIME TAKEN TO COMPLETE ONE ORBIT ROUND THE SUN**  
(in Earthtime)

MERCURY	88 days
VENUS	225 days
EARTH	1 year
MARS	687 days
JUPITER	11½ years
SATURN	295 years
URANUS	84 years
NEPTUNE	165 years
PLUTO	248½ years

**NUMBER OF SATELLITES KNOWN**

MERCURY	0
VENUS	0
EARTH	1
MARS	2
JUPITER	12
SATURN	9
URANUS	5
NEPTUNE	2
PLUTO	0

## TIME TAKEN TO ROTATE ONCE ON AXIS

	days	hours
MERCURY	88	
VENUS	225	
EARTH		24
MARS		24½
JUPITER		9¾
SATURN		10¼
URANUS		10¾
NEPTUNE		15¾
PLUTO	6	9

## ESTIMATED SPEED IN ORBIT

(in miles per second)

MERCURY	29
VENUS	31½
EARTH	18½
MARS	15
JUPITER	8
SATURN	6
URANUS	4½
NEPTUNE	3½
PLUTO	3

the next morning many of the children had arrived with information from home. We divided into 9 groups. (On this occasion I grouped the children and I grouped them according to their mathematical ability.)

Before we began I explained the necessity of choosing colours to represent each of the planets. Then as histograms and charts were compiled, coloured sticky paper and crayons could be used and we would not become confused. The children suggested colours and we voted for them.

MERCURY	Light Red
VENUS	Light Green
EARTH	Brown
MARS	Dark Red
JUPITER	Yellow
SATURN	Dark Green
URANUS	Light Blue
NEPTUNE	Pink
PLUTO	Dark Blue

The groups then each chose a planet on which to compile a book of information.

I gave out the cards to the groups and stood back while they discussed how they were going to present their work.



*Photo showing work on the Solar System.*

We then began mathematical calculations which lasted for several days. The children persevered and while some coloured in endless squares on graph paper, others in the group wrote about the planets or drew pictures for the book.

The group worked on the "Estimated Speed in Orbit" called their graph "Space Race." Their graph showed the position of the planets, having started from the same position at the end of a second. The children were unsure about whether or not the positions would change over a greater length of time. This seemed a good lesson in the relationship between constant speed and the distance covered so I asked the children to make another graph to show the positions at the end of a minute. They became so interested they went on to do another graph to show the positions at the end of an hour. This involved a great deal of graph paper and the children were forced to work on the floor along the length of the corridor. By the end of the exercise the children were quite convinced that if travelling in a straight line the planets would never change positions.

The children working on diameters of planets cut out coloured paper to scale and cut out rings to put round Saturn. They placed these cut-outs on white cards in the order they appear from the Sun. The less mathematically able children worked on the number of Satellites for each planet. They displayed their work in a variety of ways. One child threaded beads in different colours to represent the moons and another cut circles to make a histogram.

The following week we mounted a display of charts and booklets and each group explained what they had done. Several children then chose to paint scenes on the different planets from information they had found.

### FIELD WORK IN THE PARK

This work was centred around visits into a nearby park but it could have been carried out on the school grounds or on a piece of wasteland.

Instead of formal study on leaf formation, flower structure, etc., the children were taken into the Park to observe what was really growing where they said there was only grass!

We collected specimens to take back to school for identification. At first the children only selected the actual flowers and had to be shown the importance of the leaves to help with the identification.

When back at school the children tried to identify the plants. Help was needed with the more difficult ones. We decided not to classify the actual grasses as there were so many.

The children had noticed that more variety of plants grew in some places than others. Also, that in some areas the plants grew much taller. We worked out reasons for this and the children began to see the part played by the trees in providing shade.

We discussed ways of recording the information which was there. The children were interested in studying the variety of plants in the different areas and others were more interested in the heights of the plants.

We visited the park again and plotted "stations" in which to work.

The children chose four (4) areas.

Station 1 Near the gate where the people walked on the plants and there were no trees.

Station 2 Near the gate where people walked but where small trees grew.

Station 3 Farther into the park under an avenue of large deciduous trees.

Station 4 In a dense piece of mixed woodland.

(All these areas were within 300 yards of the gate.)

The children divided into 4 groups, one group to each station. They worked in pairs and took hoops to throw for "random samplings." (The children had already worked on maps so were used to the importance of keys and a direction symbol. Circles to represent the hoops were drawn before leaving school.)

They made lists of the plants they found growing in the station and measured the largest of each species (height and ground cover.)

With the information gathered, we returned to school to present the information neatly for a display. Some of the children made drawings of the plants to add to their work.

We then discussed ways of presenting the fact that the same species grew to different heights in different environments.

We gathered the information on heights of plants and made histograms to show relative sizes.

Then we went into the park to take a line transect crossing two stations.



*Children working at random samples and bark rubbings.*



*Children working on a line transect and random samples.*

Bamboo poles were erected 2 feet apart from Station 2 into Station 3. A string was stretched from the first to last pole above the height of the tallest plant. The children then realised that the ground was not flat. By measuring from the string to the ground at 6" intervals, they were able to show the variations in level. Then they measured each plant they found at 3" intervals.

While some children were employed at this task others were beginning tree studies. Many of them had not realised how complex a system a tree is. I gave them a flow chart to give them some idea.

The children's first job was again one of identification. We found that there was a choice of Oak, Elm, Ash, Sycamore, Lime, Horse Chestnut, Sweet Chestnut, Walnut, Silver Birch, Beech, and Pine.

The children again worked in pairs. They made bark rubbings, sketch drawings and collected samples of twigs, leaves, seeds, etc. and we again went back to school to work on leaf rubbings and prints.

I made some cards to help them with their study.

One year the children began tree studies in September and visited the trees each month so that they followed a cycle of development through the school year. The children became very observant during this study and very attached to their trees. The drawings of these children became much more accurate during the year as they learned to observe closely and draw what they saw.



*Children measuring the height of a tree by its shadow.*

#### WORK CARD FOR TREE STUDY

1. Choose a tree that you can look at regularly.
2. Find out what kind of tree it is. (You can use a book to help you.) See if you can find a picture of this tree to cut out or copy.
3. Make a book to keep your records in. Put a title and picture on the front.
4. There are many interesting things about trees. Here are some suggestions of studies you might like to make and maybe you can think of some more. You can do these at different times of the year.
  1. Make drawings of your tree, showing it at different times of the year.
  2. Take a bark rubbing. If the bark is loose, stick a small sample in your study.
  3. Make a leaf rubbing.
  4. Create a design in leaf prints (mix a little paste with the paint to make it thicker.)
  5. Press a leaf and flower. Notice the arrangements of the leaves on the twig.
  6. Measure round the trunk of the tree (girth) and make a diagram to show the measurement.
  7. Put the length of string in a circle and work out the approximate diameter. (diameter is the distance across the circle.)
  8. Measure the height of the tree. (you may find several ways of doing this. Here is one you can try.)

Sally

Random SamplesStation 1.

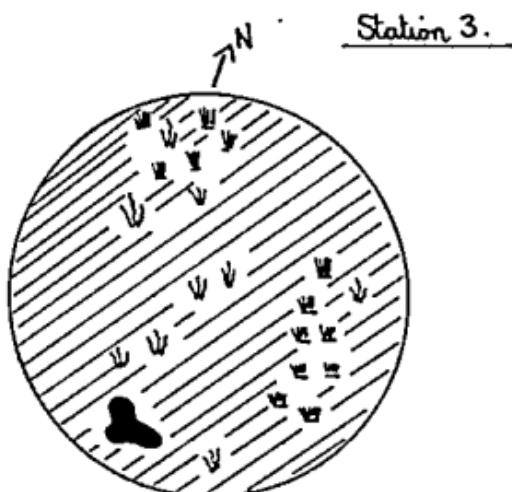
- ★ cinquefoil
- clover
- ♀ Buttercup
- ≡ grass



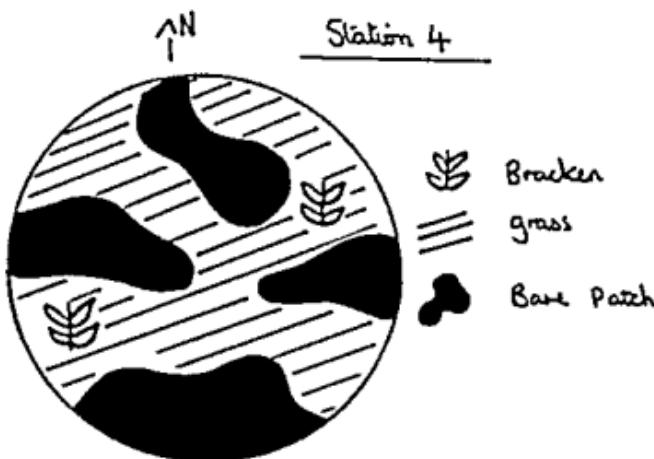
Well worn path without many trees.

To do a random sample I got a hoop and threw the hoop over a patch of grass. Then I drew the plants on a bit of paper just as the plants were. I could not move the hoop but I had to keep it in the same place.

- Buttercup
- Moss
- grass
- Bare Patch



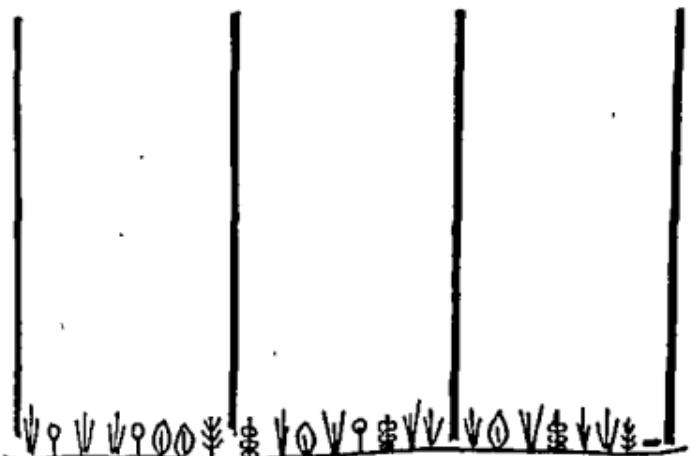
Station 3 is a shaded area with a variety of trees near the path.



Station 4 is a densely shaded area well away from the path.

## Line Transect.

The first thing that we did was put four bamboo poles into the ground two feet apart (24") Then we put a piece of string in between them all, then measured from the ground to the string on each bamboo pole. The first one was 39", the second 40", the third 39" and the forth 39" again. Next we looked at the first three inches and wrote down what was in it, then looked at the second three and wrote what was growing there and so-on. When we got back to school I drew a line transect on a piece of graph paper.



↓ Grass

## ♀ Buttercup

## ① Plantain

## Chickweed

**Nettle**

= Bare ground

## Line Transect

Jane A.

1.

3"	Grass
6"	buttercup
9"	Grass
12"	Grass
15"	buttercup
18"	Plantain
21"	Plantain
24"	Chickweed

2.

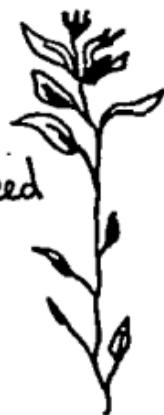
Nettle
Grass
Plantain
Grass
buttercup
Nettle
Grass
Grass

3.

Grass
Plantain
Grass
Nettle
Grass
Chickweed
Ground (bare)



Plantain

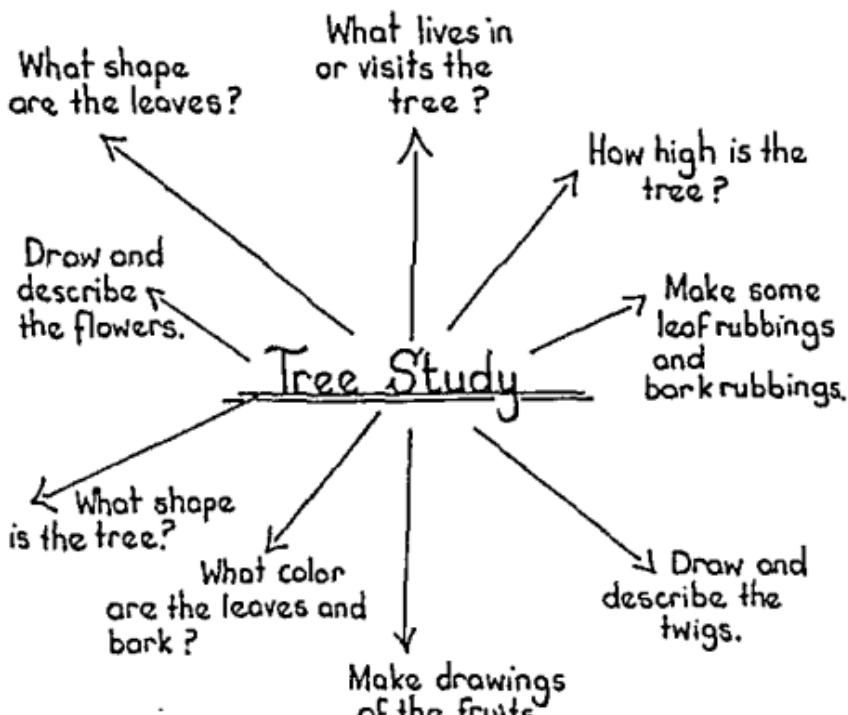


Chickweed

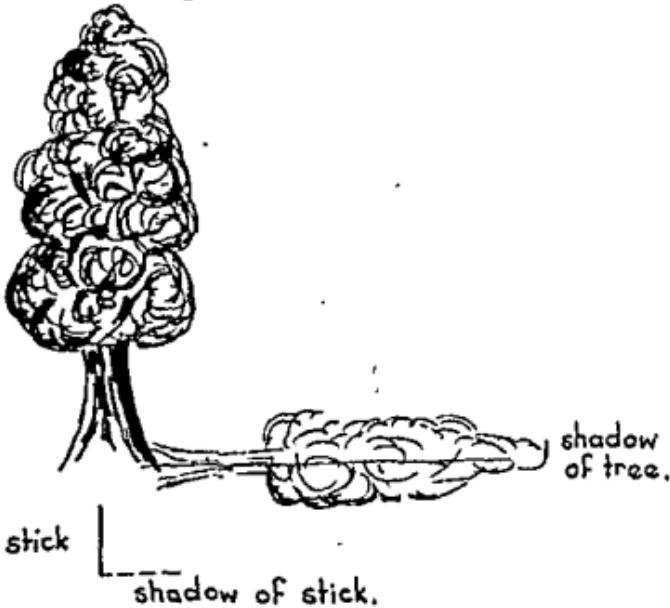


Buttercup





Measuring the height of a tree



First estimate the height (it's fun to see how accurate you can be!) At a time when there is a strong shadow, place a stick upright in the ground parallel to the tree trunk.

Measure the height of the stick and the length of the shadow, e.g. the length of the stick from ground to top may be 12". The length of the shadow may be 9". Therefore, the length of the shadow is  $\frac{3}{4}$  the height of the stick.

If the shadow of the tree is 140' we know that this measurement is  $\frac{3}{4}$  the height of the tree.

Therefore, the height of the tree must be 175'. (It is important to mark the tip of the shadow before you begin to measure, as it may change before you have completed your tree. Compare the results.

9. If you watch carefully you will notice visitors in your tree - animals, birds, and insects. Find out what you can about them. Drawings will help make your records more interesting.

### WEATHER CHART

A Weather Chart is a simple introduction to a study of the weather and enables many of the group to participate and help in the recordings.

The sketch, "The Weather To-day," is an example of a chart which can be made for work with Primary School Children.

The Chart is divided into 5 sections:

1. Type of Weather
2. Kind of Cloud
3. Temperature
4. Wind force
5. Wind direction

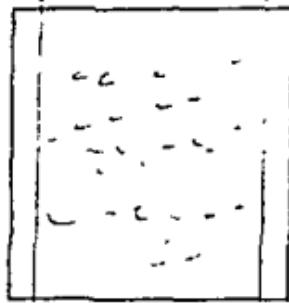
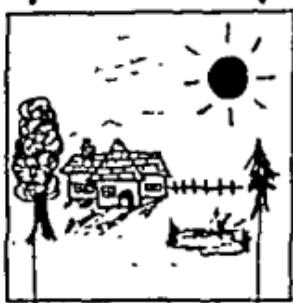
#### *I. Type of Weather:*

Seven squares of card are cut and onto each a picture drawn to represent

- Sun
- Rain
- Cloud
- Fog
- Ice
- Snow
- Thunderstorm

To go with these are seven strips of card with the above titles written on them. On the back of these strips are small pictures of the type of weather, to enable the poorer readers to recognise the correct title.

These sets of cards are slotted through elastic which is threaded through the board.

Kind of Cloud

Sun

Cirrus

The Weather TodayTemperature.

hot

Warm

cool

cold



Force I.

Wind ForceWind  
Direction

**2. Kind of Cloud:**

Four squares and four strips of card are prepared for this section

Cirro-cumulus (Mackerel sky)

Cirrius (Mares tails)

Cumulus (Fair weather clouds)

Cummulo-Nimbus (Thunder clouds)

The strips for this section also have small pictures on the back for checking the correct name for each picture.

**3. Temperature:**

A strip of card is divided into 4 sections and coloured (from top to bottom)

red — to represent 'hot'

pink — to represent 'warm'

light blue — to represent 'cool'

dark blue — to represent 'cold'

This "Thermometer" is attached to the board with adhesive and an arrow made which slots through a cut in the board, made down the length of the thermometer.

**4. Wind Force:**

Six squares and six strips of card are cut and pictures representing the forces of wind as shown on the Beaufort Scale. (See Chart.)

**5. Wind Direction:**

A circle of card with the compass points marked is attached to the card with adhesive. Through the centre of this is a brad which holds a card arrow which is free-moving to enable it to be pointed in any direction.

This chart can be varied to suit the needs of the particular group, e.g. for younger children, the CLOUD section can be limited to "CLOUD" and "NO CLOUD" and the Wind Direction can be limited to eight points of the compass. For more capable children, more cloud types can be added, more of the Wind Force Scale used, and a real thermometer inserted and actual temperature recorded.

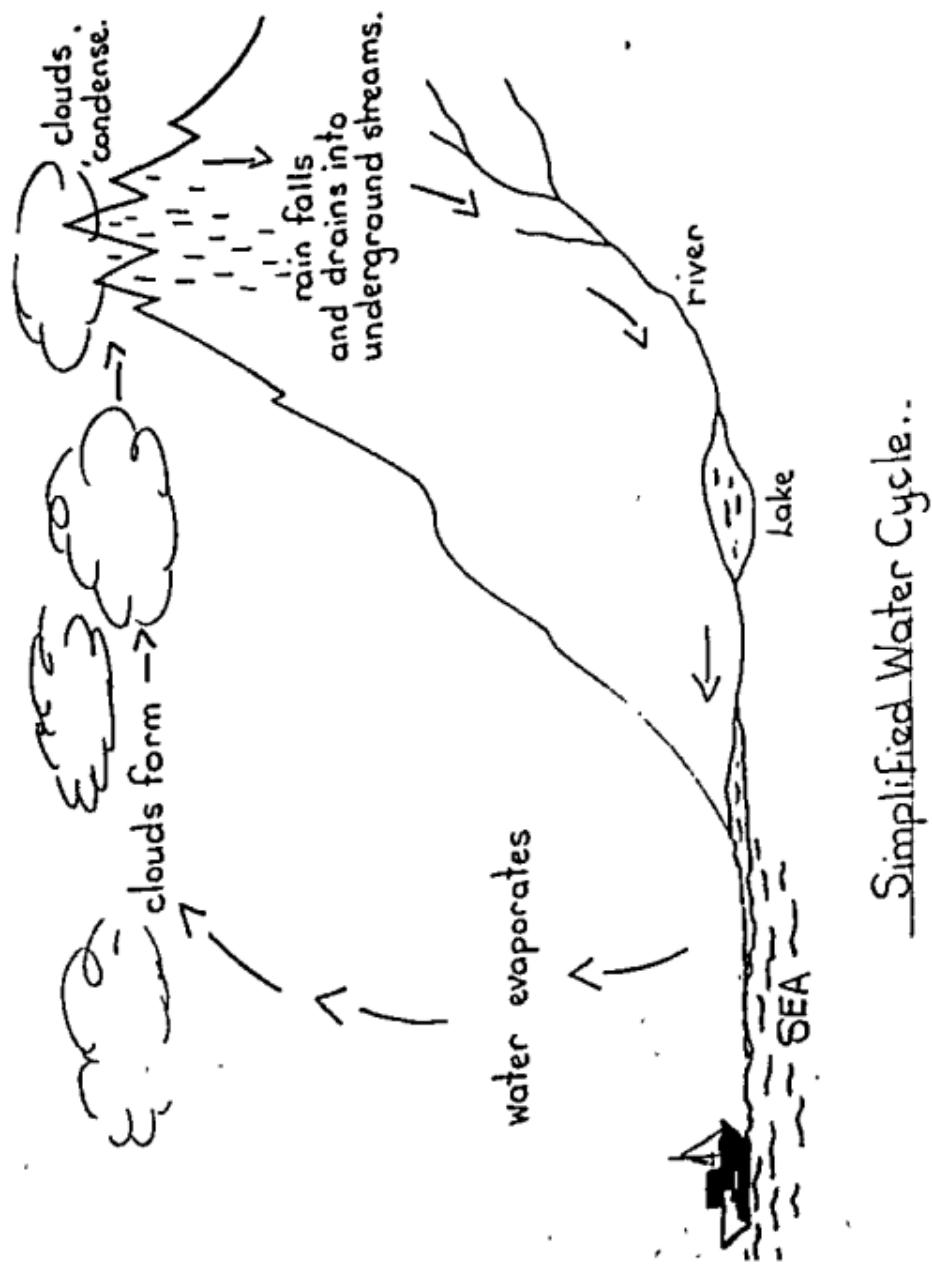
### TO USE THE WEATHER CHART

**1. Introduction**

Before introducing the Chart, it helps to find out how the children define "WEATHER."

Some first observations are usually "How hot it is" and "How cold it is." Some children will be able to supply the words "temperature" and "Thermometer."

If the words are not given by the children, they can be introduced as "scientific" words (The word 'science' always has an attraction for children.)



**2. Weather Forecasts**

Children will know about weather forecasts but many will probably not have thought about what we require from them.

With encouragement the following observations may be made:

- i) temperature
- ii) whether or not it will snow or rain
- iii) whether the sky will be cloudy or clear
- iv) the strength of the wind
- v) from which direction the wind will blow

**3. From this point the children can discuss how these aspects of weather can be noticed and the Chart can be introduced (without cards)**

- i) The class can discuss the simple thermometer and how it works
- ii) The children can discuss the wind direction circle and its use (Time may be needed here for work on the compass points)
- iii) The cards on "Type of Weather" can be shown and the written words matched with the pictures

The same is done with the pictures of "Kinds of Clouds" and "Wind Force."

(The amount of time spent on this and the depth of discussion will depend on the children.)

**4. Small groups of children can familiarize themselves with the pictures and names. (Each section is divided from the others by a coloured circle on the back of the cards.)****5. When the children are ready, volunteers can be invited to be responsible for setting the chart at the same time each day. (It must be the same time each day as there are often several changes in weather conditions during the day and this complicates record keeping.)****6. After several days the class can gather for a discussion and present their views on the use of the chart. They can be encouraged to see the value of recording what they set on the chart if a detailed account of the weather over the previous days is asked for. The chances are they will not remember and once the chart has been changed the record is lost.****7. Now can come the discussions on "Methods of Recording." (These may be as numerous as the number in the class.)**

All ideas can be attempted and children can be divided into groups — each responsible for a different section:

- a) temperatures for a week
- b) types of cloud noticed each day
- c) wind direction each day

## THE BEAUFORT SCALE

Beaufort Number	Wind	M.P.H.	Effect over land
0	Calm	1	<i>Smoke rises vertically</i>
1	Light Air	1-3	<i>Smoke drifts</i>
2	Light breeze	4-7	<i>Leaves rustle, wind felt on face</i>
3	Gentle breeze	8-12	<i>Leaves move, Light flag extended</i>
4	Moderate breeze	13-18	<i>Dust &amp; paper blow about</i>
5	Fresh breeze	19-24	<i>Small trees sway</i>
6	Strong breeze	25-31	<i>Large branches sway</i>
7	Moderate gale	32-38	<i>Whole trees sway.</i>
8	Fresh gale	39-46	<i>Hard to walk</i>
9	Strong gale	47-54	<i>Twigs break off trees</i>
10	Whole gale	55-63	<i>Chimney pots and slates blown off.</i>
11	Storm	64-72	<i>Large branches down</i>
12	Hurricane	72 and more	<i>Trees uprooted, serious damage to buildings</i>
			<i>Cause widespread damage</i>
			<i>Disastrous results</i>

For work on weather charts and making a simple anemometer the wind strengths usually marked are:

- 0, 1 and 2 = Light
- 4 and 5 = Moderate
- 6 = Strong
- 7 = High
- 8 and 9 = Gale

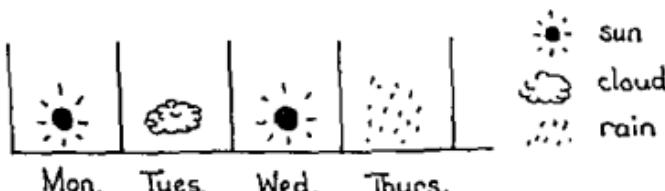
### Ideas for Recording:

Child find block graphs easy to make and follow.

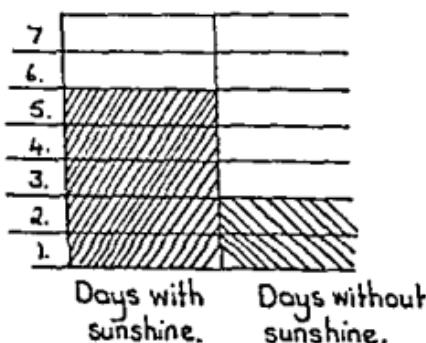
These can be made in a variety of ways according to the subject.

e.g. 1) Type of weather recorded during the week  
 \_\_\_\_\_ to \_\_\_\_\_.

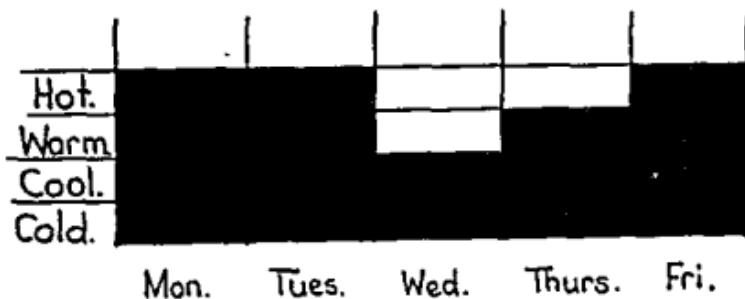
Key.



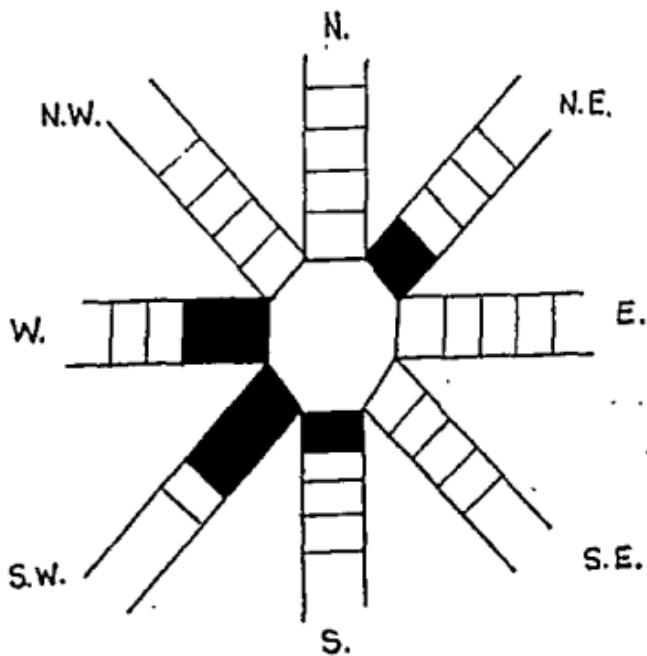
2) Chart to show the number of days with and without sunshine.



3) Chart to show temperatures recorded during the week \_\_\_\_ to \_\_\_\_.



4) Wind Direction



It is important for the records to be on show and, according to the ability of the children, there should be a gathering of all information each day and discussions conducted at the end of each week.

Conclusions should be drawn from the records, e.g.:

"How many sunny days did we have this week?"

"Did it rain this week?" "On how many days?"

"Were there any days when the wind blew from the same direction?"

Children should be encouraged in several directions, e.g.:

i) Children's own forecasts

ii) Collection of weather lore

iii) Children can make collections of weather predictions in newspapers and learn the signs used on weather maps.

"Bingo" games can be made using weather signs to help children to remember them.

Children can make up weather maps for other children to read.

iv) Science experiments can be done on air speed and pressure.

v) The Water Cycle can be discussed and more study made in what helps "make" various conditions.

In recording weather observations, children must become aware of the importance of putting:

a) a title

b) a key

c) any relevant conclusions drawn

For example, in the diagrams shown:

#### *1] Type of weather*

There were 2 days of sun (Monday and Wednesday)

1 day of rain (Thursday)

1 day of cloud (Tuesday)

#### *2] Days with and without sunshine*

There were 5 days with sun

There were 2 days without sun

#### *3] Temperatures*

There were 3 hot days

Wednesday was a cool day

#### *4] Wind Direction*

On 3 days the wind blew from the S.W.

On 2 days the wind blew from the W.

On 1 day the wind blew from the S.

On 1 day the wind blew from the N.E.

## Maths

**(A)** VER the years, teachers have realised the importance and value of relating the practical experience of the child to mathematical concepts rather than the other way round.

In the Schools Council Curriculum Bulletin No. 1 "Mathematics in Primary Schools" (H.M.S.O. 1965) the following principles were summarised:

1. Children learn mathematical concepts more slowly than we realised. They learn by their own activities.
2. Although children think and reason in different ways, they all pass through certain stages depending on their chronological and mental ages and their experience.
3. We can accelerate their learning by providing suitable experiences, particularly if we introduce the appropriate language simultaneously.
4. Practice is necessary to fix a concept once it has been understood, therefore practice should follow, and not precede, discovery."

There has been a great change in methods of teaching maths recently. The Plowden Report (1967) points out that "this change in the curriculum has been brought about by pioneer work by teachers, clarified and focused by advisory services to teachers, and diffused on a national scale by in-service training in which self help has played a major and essential part."

The Report concludes its findings in the Aspects of the Curriculum - Mathematics - with, "The rate of change must obviously slow down, but the initiative must remain firmly in the practising teacher's hands."

Children will always ask questions and much maths work can come from the investigations following these queries. They learn the appropriate symbols and techniques as they need them and are therefore likely to be receptive to the teaching of them.

The methods which have arisen in approaching the teaching of maths through the children's experiences are many and varied.

One argument against the approach which believes that a child will learn best at his own speed and following his own interest is that children will become lazy and inaccurate.

There is a chance that some children will produce little work and there will probably be some inaccuracy, but this will happen with any method used. Sometimes there is a danger of children floundering with too little guidance but then there is also a danger of children being "rushed" by a textbook with little practice when needed, or being held back in formal class lessons.

As I see it, the prime problem in the new approach to the teaching of maths is that the teacher has a great responsibility in putting materials in the way of the child at the right moment and keeping track of the concepts learned by the child.

The aim must be to help the children to understand what they are doing. The important factor is that children should learn how to begin to tackle a problem even if they do not know the precise method of solution.

Of all the subjects taught in the Primary School, Mathematics is one which I feel must be taught informally for a large percentage of the time.

In most subjects children can be gathered together if the teacher prefers and the subject of the lesson can be developed by each child on his own level, usually without too much difficulty.

As with reading, children develop at different rates in maths and there is little point in teaching new concepts which follow others which a child has not already grasped. Much experiment and practice in sorting, conservation, and measuring is needed before actual problems can be solved and calculations made.

Conversation is of great value here. Teachers can help the children to express what they are discovering and introduce them to the appropriate language relevant to the expression. Children can help one another to understand relationships in the world of number and working in pairs is often valuable. The importance of conversation and vocabulary used became obvious to me after I had attended a "Mathematics Course" held at the Local Education Authority Maths Centre.

Sessions are held at this centre which is situated in one of the Primary Schools and teachers are released for an afternoon a week over the period of half a term.

The first part of each session was devoted to "Playing" with the materials set out and drawing conclusions from our "play." We then explained to the rest of the class what we, as individuals or groups, had discovered.

Comments were invited and we were helped to see some of the frustrations from the children's viewpoint. Many alternatives came to light in methods of using the same materials.

When we found ourselves unable to understand and fully appreciate the children's problems, as in conservation and relativity, we could call upon children in the school to demonstrate.

Another variable aspect of this course was the opportunity given to experiment with new equipment, discuss new publications, and see films and samples of work from other schools.

There are several useful courses of this kind of which teachers can take advantage. They also provide teachers with the opportunity to meet and discuss mutual problems with others. A big problem for teachers is that they can become too immersed in their own methods and problems within their own four walls.

Written recordings of number work should be made as soon as the children are able to master the skill of recording. They should be simple records which the children can understand. Even so, it should be made clear to the recorders that the point of recording is to enable them to look back and re-cap, or for someone

else to be able to understand what is being explained.

Sometimes young children prefer to use an arrow instead of an equals sign. Many teachers write a series of numbers with commas separating them before explaining the addition sign. This works well as long as the system is standardised for the group.

There can be no set order for teaching of set sections in arithmetic, e.g.:

1. Four rules of number (+ — x ÷)
2. Fractions
3. Area

In the course of everyday life a child will learn division very early especially if he has to share with brothers and sisters. Not only will he know the meaning of division, he will be well able to cope with simple fractions. He will know that something whole cut into equal parts will be two halves. Also, a cake cut into four equal pieces will make smaller pieces than if it had been cut into halves! How much of this practical experience can be applied when working with other materials will often depend on the amount of discussion which has taken place at the time of the experience and the language used. If a parent only uses the word "pieces" when cutting a cake, a child is not likely to take much notice except of the size (big or small according to his liking of the cake), but if the words "halves" and "quarters" are used, and he is encouraged to notice which is larger, he will be laying down a foundation on which to place more information on fractional parts.

Place value is often an obstacle in recording. Children need help to understand that the value of a figure can be altered according to its placing. The place of the '0' (Zero) is often confusing. But if the child really understands its function, its value in decimal numbers can easily be seen when working with numbers of less than one.

The story of Abelard, a monk in Gloucester Cathedral, living in the 12th Century, provides a good illustration for the use of zero.

Abelard was the Treasurer of the Monastery and it was his job to count the sacks of grain delivered by merchants from the Mediterranean. The method of counting at this point of time was on an abacus. This was a cumbersome method and Abelard resorted to placing pebbles to represent the sacks of grain. One day he noticed that the foreign merchants used strange figures and a symbol '0'. To discover the secret behind this sign, Abelard travelled in disguise to Cordova in Spain where he mixed with Arab merchants and learned to use this new counting system.

Children enjoy recounting this story and by building up abacus picture numbers, and then recording them in Arabic numerals, they are helped to understand the meaning of place value.

In recording, children find it easier at first to record in abacus-type pictures, e.g. three single strokes to represent three objects counted.

I feel that there is far more value in the action of actually counting "real" objects and making a record of the counting than to circle items and the appropriate figure in a work book. There are many work books which provide this

## The Sieve of Eratosthenes.

Prime numbers are numbers which can only be divided by themselves and one.

Eratosthenes was a Greek who invented a way of finding prime numbers. It is called the sieve of Eratosthenes. Draw a 100 square.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

1. Color in the square with the number 1 in it.  
(We do not usually count one as prime.)
2. Look at the number 2. Leave this number and shade in every second number after 2.  
(2 will divide into each of these numbers.)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

3. The next number in the first line is 3. Leave the number 3 and shade (in a different colour) every third number. (Each of these can be divided by 3.)
4. Do the same thing with the numbers 5 and 7. (Some numbers will be already marked.)
- When this is done you can make a list of the unshaded numbers. These are the prime numbers. (left in the sieve) The shaded numbers are not primes. (They have fallen through the sieve!)
5. Can you explain the difference between "odd numbers" and "prime numbers".?

type of counting practice but alone this kind of work is so abstract that it can appear nearly meaningless to the child.

Another interesting general topic for children of Junior Age is the work of Eratosthenes and his Sieve of Prime Numbers.

I have not the time nor the space to go into all the stages of teaching mathematics in the early years, and there are many excellent books on method written by those who have devoted much time to this single subject. Again, I feel that as teachers we should provide an environment in which each individual is encouraged to widen his experience and understanding of numbers in as many ways as we can devise.

When the time comes for the teacher to give the child mechanical practice in the four rules of number it is important that the "sums" should be graded carefully and not just made up to occupy the child, e.g.:

### ADDITION OF NUMBERS

#### 1. Addition of rows with no carrying.

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ + 11 \\ \hline 23 \end{array} \quad \begin{array}{r} 15 \\ 21 \\ + 21 \\ \hline 57 \end{array}$$

#### 2. Introduction of carrying from units to tens.

$$\begin{array}{r} 2 \\ + 8 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ 6 \\ + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} 14 \\ + 29 \\ \hline 43 \end{array} \quad \begin{array}{r} 14 \\ 25 \\ + 16 \\ \hline 55 \end{array}$$

#### 3. Include zeros and omissions.

$$\begin{array}{r} 11 \\ + 30 \\ \hline 41 \end{array} \quad \begin{array}{r} 68 \\ 10 \\ + 13 \\ \hline 91 \end{array} \quad \begin{array}{r} 19 \\ 3 \\ + 24 \\ \hline 46 \end{array} \quad \begin{array}{r} 103 \\ 21 \\ + 6 \\ \hline 130 \end{array}$$

#### 4. Addition using words and set out horizontally so that the child has to use knowledge of place value.

### SUBTRACTION OF NUMBERS

#### 1. Subtraction of units only.

$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array} \quad \begin{array}{r} 5 \\ - 4 \\ \hline 1 \end{array} \quad \begin{array}{r} 6 \\ - 4 \\ \hline 2 \end{array}$$

## 2. Subtraction of tens and units.

$$\begin{array}{r} 16 \\ - 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 13 \\ - 2 \\ \hline 11 \end{array} \quad \begin{array}{r} 27 \\ - 11 \\ \hline 16 \end{array}$$

## 3. Transferring 1 ten from the tens column into ten units.

(We teach a decomposition method so that the child can see the logical process of transferring 1 ten to make ten units which can then be used.)

$$\begin{array}{r} 24 \\ - 5 \\ \hline 1 \ 9 \end{array} \quad \begin{array}{r} 1 \ 14 \\ - 5 \\ \hline \end{array} \quad \begin{array}{r} 32 \\ - 6 \\ \hline \end{array} \quad \begin{array}{r} 2 \ 12 \\ - 6 \\ \hline 2 \ 6 \end{array}$$

## 4. Transferring from tens and hundred.

## 5. Subtraction of hundreds, tens and units with a zero in the tens column so that hundreds have to be taken and transferred via the tens column.

$$\begin{array}{r} 406 \\ - 137 \\ \hline \end{array}$$

As 7 units are more than 6 units, 1 hundred is taken from the 4 leaving 3. This hundred is in fact worth 10 in the tens column.

$$\begin{array}{r} 406 \\ - 137 \\ \hline \end{array} \quad \begin{array}{r} 3 \ 10 \ 6 \\ - 1 \ 3 \ 7 \\ \hline \end{array}$$

1 of these tens can now be transferred to the units column making the total 16, and leaving 9 in the tens column.

$$\begin{array}{r} 3 \ 10 \ 6 \\ - 1 \ 3 \ 7 \\ \hline 2 \ 6 \ 9 \end{array}$$

Children can learn to check their answers by adding the answer to the amount which was subtracted to arrive at the number started with. They should learn to look for quick checks such as knowing that when the number being subtracted is only one more than the number from which it is being subtracted, after transferring one from the next column (with a value of 10), the answer will be 9.

Most of my experience has been with children between the ages of 8 and 11 and I have adopted much the same approach with each group as there are always children at all stages of development within any one age group.

One of the first tasks I undertake with a new group is to try to estimate the amount of mathematical understanding of each child.

This is done by discussion and following simple programmes in which the child cannot fail, but is able to go as far as he is capable, and which enables the teacher to see his limitations and depth of knowledge.

Samples of the kind of work cards I give to 9 year old children at the beginning of the year follows, knowing that they would have had some experience in all these subjects previously.

For younger children, or those with less ability, I would make them easier and shorter. (Children with difficulty in number concepts are easily put off by a large amount of work they think they cannot do.) For more able children I would add to what is here. Revision does not harm them and it gives children a sense of security to have some work which is easily within their capabilities.

I divide these cards into seven sections:

- \*1) Length
- \*2) Weight
- 3) Capacity
- \*4) Time
- \*5) Fractions
- 6) Area
- 7) Volume

\*Illustrations shown

Depending on the group, I sometimes introduce the first four (length, weight, capacity, and time) initially and then bring in the latter three (fractions, area, and volume) later.

These cards, and the apparatus necessary for the work, are set up in different areas of the room so that the children can move from one section to another. (In a classroom with no sink, it is more convenient to set up the Capacity Group near the door for fetching water!)

The cards are colour coded to help the children relate the initial work card with other supplementary ones on the same subject.

At the end of each card presented to the children are directions to textbooks which continue with work on the same subject. Usually there are some suggestions for follow-up work which they might like to try on their own, e.g. "Can you find any more information from home?" "Are there any other ways of recording what you have found out?" or "Can you think of other information which can be recorded in a similar way?"

If a child finishes in one section, e.g. "Length" and there is no apparatus available in other sections, then he can go on to one of the supplementary cards to enable him to follow further investigations.

The children are not left entirely on their own while working with these cards. They can discuss what they encounter with each other and the teacher, and if anyone branches off and follows an interesting course of study it can be brought to the attention of the whole class. Likewise, any problems which arise can be put

# Length

You will need a ruler, a tape measure, some squared paper and some coloured sticky paper.

1. Measure 3 people on your table.

- A. — a tall one
- B. — a short one
- C. — a medium one

Cut some strips of sticky paper to represent these people. Stick them onto the squared paper.

(You can use the squares to help you work out the scale.)

2. Which is the shortest ? - in ft. and ins.  
- in metres and cms.

Which is the tallest ? (in both kinds of measurement.)

3. How much taller is A than B?

How much shorter is C than B?

How much taller is B than C?

How much shorter is C than A?

4. Spread your hand and draw round it so that you have an outline in your book. The distance (in a straight line) from your thumb to your little finger is called your SPAN.

Measure your SPAN. Write it down.

How wide is your desk in SPANS?

How wide is your desk in inches?

How wide is your desk in centimetres?

5. Measure the width of the classroom with your feet (from toe to heel). Measure your feet from toes to heels. How wide is the classroom?

6. Now measure the corridor in the same way. Check your measurement with the trundle wheel. Are they exactly the same? Why?

7. Guess the height of the door. Write down how high you THINK it is.

Measure it. How accurate were you?

8. We measure horses in "HANDS". A hand measures 4 inches.

If Dobbin measures 16 hands, how many inches does he measure? How high is this in feet and inches? How high is this in metres and centimetres?

## Weight

You will need some scales and weights, some bags or newspaper, all the same size and some sticky tape.

1. Take a pen, pencil, ruler and a coin.

Find which is the heaviest, without using scales.

Write down the name and say how you found it.

2. Place all the articles in order starting with the lightest. Write down the order.

3. Find 6 different things with different weights and wrap them up. Use the sticky tape and try to make the parcels the same size.

Write a number on each parcel. Find out the weights using the scales and put down the numbers starting with the lightest.

4. See if someone else can work out the order without using the scales.

5. Take the 1 ounce (oz.) weight and feel it.

See if you can find anything else which might weigh 1 oz. Check on the scales. Write down objects which you find weigh 1 oz.

6. Find how many oz. make 1 pound (lb.)

7. Select 4 or 5 objects and estimate their weight. Check actual weight and work out your error.

Record your work like this.

Things I think weigh 1lb.	Real weight	My mistake
e.g. 2 exercise books	1lb. 3oz.	3oz.

8. Make a list of things which are sold in ounces.

9. Make a list of things sold in pounds.

10. What other weights do we use? Give examples.

11. Write down objects you can see in school which you think weigh :- a) 1 oz. b) 1 lb.  
c) 1 stone d) 1 qr. e) 1 cwt. f) 1 ton.

## Time

1. How many hours are there in 1 day ?
2. Here are the days of the week in the wrong order : -

Thursday, Monday, Wednesday, Saturday,  
Tuesday, Friday, Sunday.

Write them in the correct order beginning with Monday.

3. Using a calendar, find out the number of whole weeks in each month.

4. How many weeks are in 1 year ?

5. The number of days in each month varies.

Write down the number of days in April.

Write down the names of months with 31 days.

Write down the names of months with 30 days.

6. Are there any months left ? How many days ?

7. We had Leap Years in 1888, 1920, 1932, 1940

Find out how often we have Leap Years. Can you work out a rule for finding which years are Leap Years?

8. Put 6 clock faces in your book. (Use the clock stamp.)



When the big hand points to 12 we call this 0 o'clock.

This picture shows 3 o'clock.

The small hand moves from one number to the next in each hour. When the small hand has moved from 12 round to 12, twelve hours have passed.

When the big hand has moved as far as the 3, a quarter of an hour has passed. When it reaches the 6, half an hour has passed. When it reaches the 9, three quarters of an hour has passed.

Put these times on your clocks.

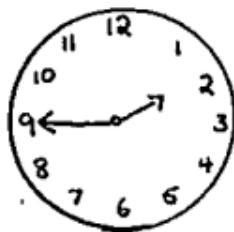
- i)  $\frac{1}{2}$  past 5    ii) 9 o'clock    iii)  $\frac{1}{4}$  past 10

After the big hand reaches the 6 it is more than  $\frac{1}{2}$  way round.

This clock shows  
 $\frac{1}{2}$  past 3



Now we count the minutes to the next hour.



This clock shows 15 minutes  
to 2 ( $\frac{1}{4}$  to 2)

Put in these times.

i) 20 to 5. ii) 5 to 6 iii)  $\frac{1}{4}$  to 1.

q. How many minutes in 1 hour ?

How many minutes in  $\frac{1}{2}$  hour ?

How many minutes in  $\frac{1}{4}$  hour ?

How many minutes in  $\frac{3}{4}$  hour ?

## Fractions

You will need a square of colored sticky paper and some scissors, a ruler and a pencil.

1. On the back of the sticky paper draw a square with each side measuring 2 inches.  
Cut 3 more squares of the same size.

2. Stick the first one into your book.

3. Take one of the squares and fold it exactly along the centre. Cut along the line. How many pieces do you have?

Stick them in your book and label them.  
Can you see how many of these make  
1 whole one.

4. Take the next square and do the same thing. Fold each of these pieces into 2. How many pieces do you have altogether?

Stick them in your book and make up a sum to show how they add up to 1 whole

Take the last square and do the same thing again and cut each of these pieces into 2 equal parts. How many have you made?

Stick these in your book and label them.

6. Write out:-  $\frac{1}{2} + \frac{1}{2} = 1\text{ whole}$

$$\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$$

$$\frac{1}{8} + \frac{1}{8} = \frac{1}{4}$$

7. Work out the missing figures.

i)  $\frac{1}{2} + \frac{1}{8} + \frac{3}{ } = 1\text{ whole}$  vi)  $\frac{1}{4} + \frac{1}{ } = \frac{3}{4}$

ii)  $\frac{1}{8} + \frac{1}{8} + \frac{1}{ } = \frac{1}{2}$  vii)  $\frac{3}{4} + \frac{1}{8} + \frac{1}{ } : 1\text{ whole}$

iii)  $\frac{1}{4} + \frac{1}{ } = 1\text{ whole}$  viii)  $\frac{2}{8} =$

iv)  $\frac{1}{4} + \frac{1}{2} + \frac{1}{ } = 1\text{ whole}$  ix)  $\frac{6}{8} =$

v)  $\frac{1}{4} + \frac{1}{4} + \frac{1}{2} = 1\text{ whole}$  x)  $\frac{1}{4} + \frac{1}{8} + \frac{5}{ } = 1\text{ whole}$

before the other children for solution.

The amount of work which must be done on a direct pupil/teacher basis depends on the child's reading ability. In a large class the children can work in pairs (a good reader together with a less able reader, but then a careful watch must be kept to ensure that one child is not doing the work for two!)

Although written work is set on an individual and group basis, some class oral lessons are taken on basic concepts from time to time when it is certain that all members can contribute and gain something from the activity, e.g.:

Building-up tables

Number bonds

Block graphs

Ways of telling time

Calculating change for shopping

Work on different number systems, e.g. Roman and Egyptian

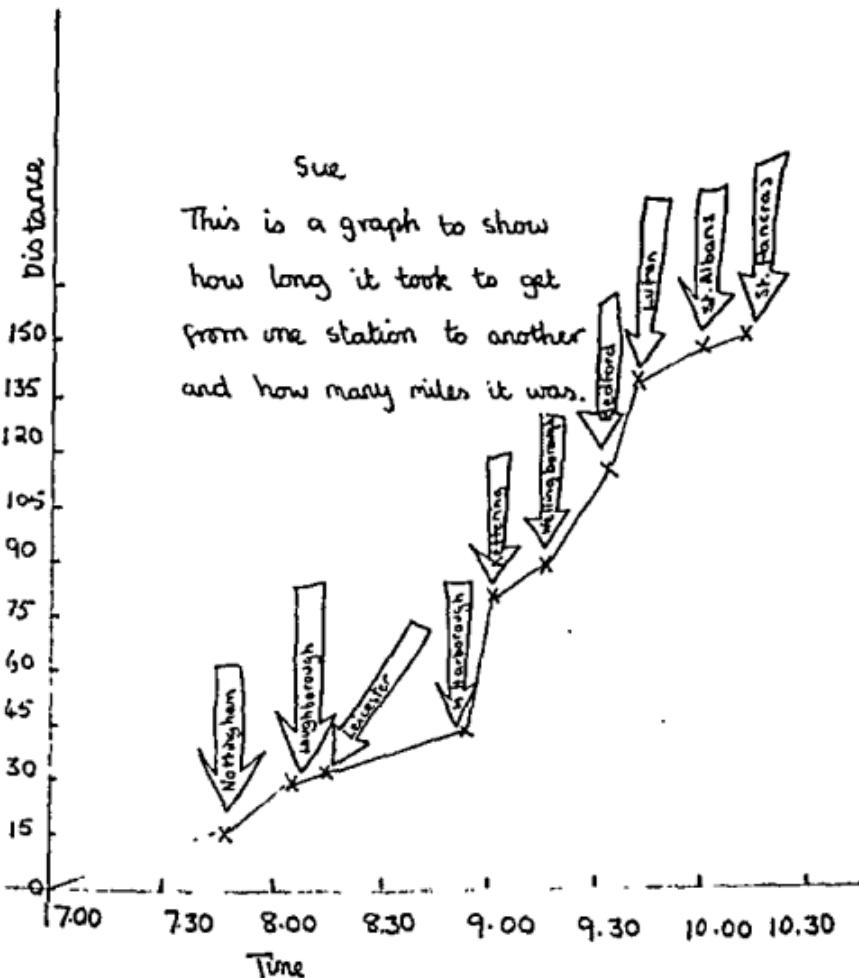
Vocabulary is discussed and children can, for example, find information on names for certain numbers, i.e. gross, century, decade, score, dozen, etc. Information of this sort can be recorded in a notebook. Often pictorial representation helps commit the information to memory.

Children are usually interested in learning names for different shapes and will enjoy finding examples of them in things around them.

I look upon these topics as general ones which can be understood by any child as they are not dependent on other concepts which are necessary to lay down first. They should not be confused with those such as the teaching of a method to multiply by a number greater than 2 when some members of the class have difficulty in doubling numbers, or calculations of fractions when some children are hazy about halves and quarters. By having complicated processes explained to the whole class, children who have failed to grasp earlier concepts become distressed and overwhelmed and they often erect barriers which inhibit any sort of mathematical comprehension.

Any activity out of school involving a journey can be incorporated into a mathematical topic for the child.

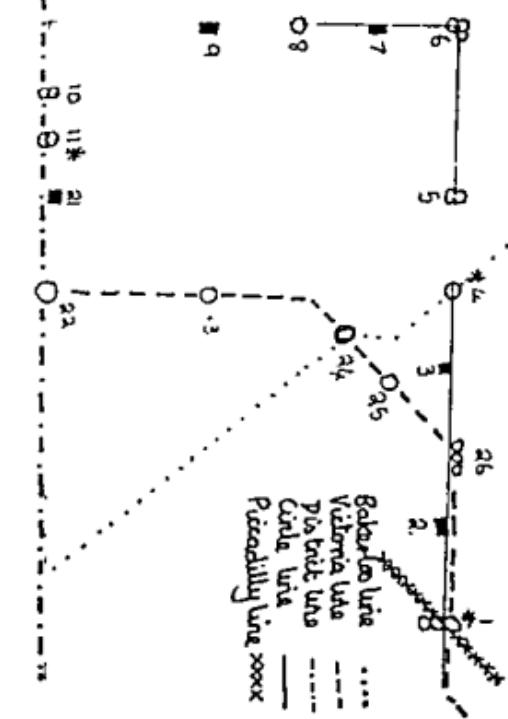
The following samples came after a Field Trip involving a Train Journey to London to visit The Planetarium, the Natural History Museum and The Royal Botanical Gardens, Kew.



## The ABC's of the Open Classroom

1. Saint Pancras.
2. Euston Square.
3. Great Portland Street
4. Baker Street.
5. Edgware Road
6. Paddington
7. Bayswater.
8. Notting Hill Gate
9. High Street Kensington
10. Gloucester Road
11. South Kensington
12. Earls Court.
13. West Kensington.
14. Barnes Court
15. Hammersmith.
16. Ranelagh Park
17. Stamford Brook
18. Turnham Green.
19. Gunnersbury
20. Kew Gardens.
21. Sloane Square.

The Route we took On the Underground



Fraser

	£	p
Train from Nottingham/ London (return)	50	00
Entrance to Planetarium	6.	00
Bus to the station	4	00
Tube i St Pancras/Baker St:	1.	30
ii Baker St/5th Kensington		30
iii 5th Kensington/Kew Gdns	3.	20
iv Kew Gdns /St. Pancras	<u>5.</u>	<u>20</u>
	£	<u>71 . 00</u>

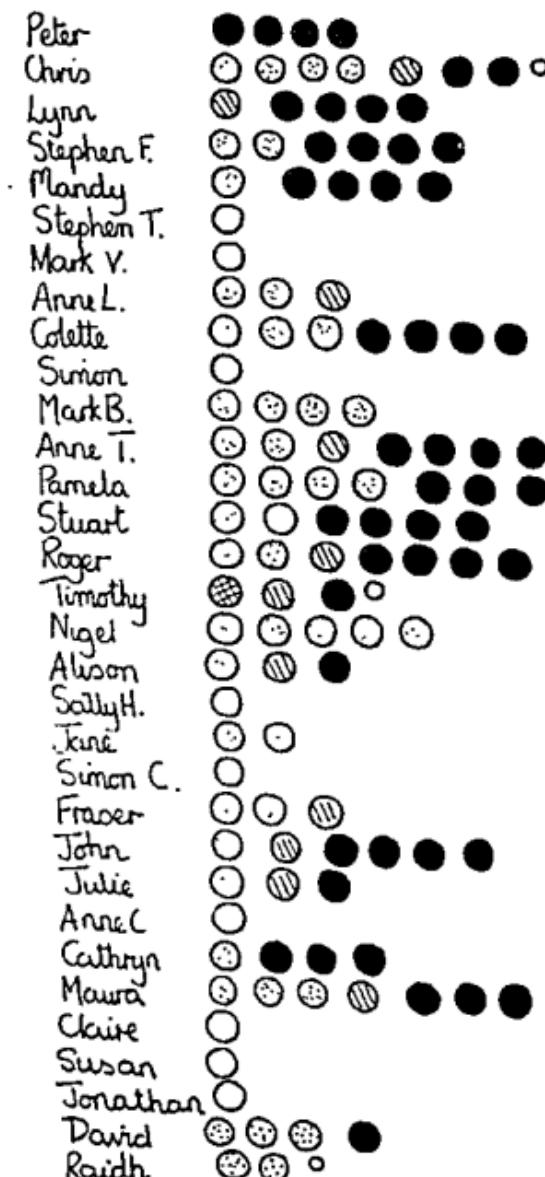
Each child paid £1.80

The tube fares came to £11.00

Each child paid  $27\frac{1}{2}$ p  
on tube fares.

The trip cost each child £1.75

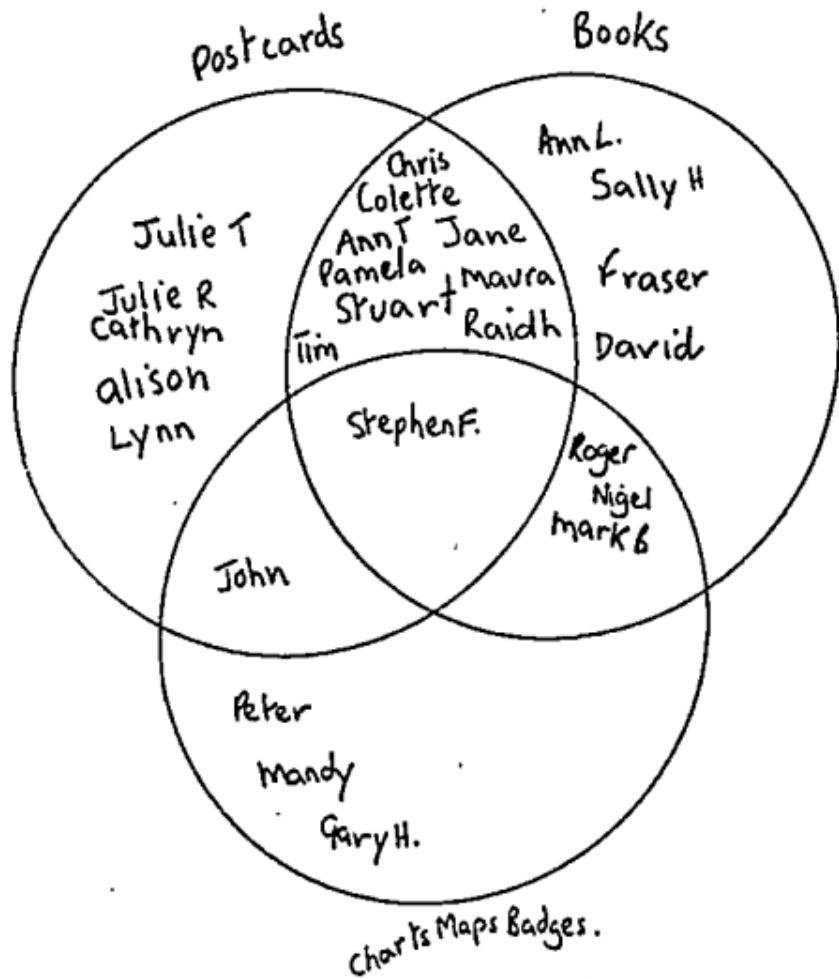
This is to Show How Much Money People Spent on our Trip to London.



Key.

- 50p
- 10p
- 5p
- 1p
- ½p
- nothing.

Roger T.



9 people got postcards and books  
 Stephen got everything  
 John got 2 things.



*Studying the worksheets before the London visit.*



*Studying the map before the London visit.*

## LONDON VISIT CROSSWORD

## CLUES

*Down*

1. To exert much force.
2. Exit.
3. The sun is one.
4. Used at the Planetarium.
5. The flower beds are this.
6. Of Kings and Queens.
7. A tree.
10. A place for flowers.
12. The end of our journey.
15. A small one of 17 across.
16. We --
10. and 42. across. " -- you like it."
20. and 38. and 50. - flower.
22. Plant from Japan.
23. Kind of 4 down.
25. A country of interest to us.
27. Our satellite.
28. and 37. across. Either --
31. Tree (not the opposite of pretty!)
32. There is a Japanese one.
34. A sign of the Zodiac.
36. The kind of years by which we measure speed.
39. Happiness.
41. Opposite to Yes.
43. System round the Sun.
48. and 29. and 40. across. Opposite to No. 2 down.
49. Some trees at Kew are this.
52. and 44 across. Opposite to off.
53. Part of some.
54. They are. He -

*Across*

4. Dome shaped building.
8. Going - London.
9. Baby language for Thankyou.
10. The Milky Way.
11. and 30. Regent's.
13. and 14. - the station we catch a train.
16. - apple.

- 17. The body of water at Kew.
- 18. A spreading evergreen.
- 21. Centre of our system.
- 24. The Royal Family used to -- the gardens.
- 26. Some plants are this.
- 31. Tall building.
- 33. You will see more than one green one!
- 35. Flower arranging is one.
- 45. Put before 38. down.
- 46. We -- to London.
- 47. Study of plants.
- 51. A group of stars.

The children can be encouraged to use all sorts of personal data to provide better mathematical understanding:

- i) The heights of members of the family
- ii) Birthdates and ages of the members of the family
- iii) Measurement of hand span of each member of the family  
(Drawing round the hand on squared paper and counting the squares can be an introduction to AREA. This can be followed by drawing round feet, etc.)
- iv) Information can be obtained from fellow class members on such things as
  - a) number in family
  - b) Colour of car
  - c) Names of comics taken
  - d) Pets
  - e) Favourite T.V. programme, etc.

All this data can be used to teach various methods of recording and will really mean something to the child.

Sometimes "mental" practice is given. But I try to make this informal so that although the aim is for the children to do as well as possible they either check their own or another's work. Moreover, results are not compared with all the others in the class. The work is gone over so that mistakes can be rectified. I always ask who has obtained full marks and one or two less but do not ask for all individual results. Children who consistently seem to have little success can be seen at another time when the attention of others is directed elsewhere!

On the whole, children enjoy some competitive work. A variation on individual "mental" work can be a *team* effort. The children can be divided so that the less able ones are distributed amongst the more capable ones. They are heartened by being a member of a group and sometimes gain confidence from this. Building confidence is difficult, especially with those who seem to have a fear of mathematics and have convinced themselves they are unable to do anything.

London Crossword      for visit to,  
The Planetarium, the Natural History Museum



and the Japanese Gardens at Kew.

Number bonds are basic and help to provide a solid foundation on which to build:

Composition of numbers

Conservation of numbers

Reversal of numbers

They can all be practised orally. Accuracy in this work provides the child with a sense of security and enables him to work confidently with his calculations.

When the child is sure of the numbers which go together to make 10, they are able to relate this information to numbers which go together to make 20, etc. e.g.:

$$3 + 7 = 10$$

$$13 + 7 = 20$$

$$43 + 7 = 50$$

They are able to learn to subtract in the same way:

$$3 + 7 = 10$$

$$7 + 3 = 10$$

$$\cdot \quad 10 - 7 = 3$$

$$10 - 3 = 7$$

Onto this basic knowledge of numbers they can learn to add 10 to any number:

$$7 + 10 = 17$$

$$27 + 10 = 37$$

$$57 + 10 = 67$$

Following this, the child can learn to add 11 by adding 10 and 1, and 9 by adding 10 and subtracting 1.

Subtraction can be dealt with in a similar way.

Practice in adding money and calculating change can be done orally at this stage.

Once this basic knowledge on the Denary System (Base 10) is secure, the children can be set to work in the Binary System (Base 2) and they can go on to make up the requisite vocabulary to illustrate various other bases.

One example used for Base 8 is an Octopus.

Some bright children make up an imaginary planet where all the counting was recorded in "Unos" and "Whatsits." (Base 3 — 3 Unos = 1 Whatsits) This kind of work is extremely difficult to check and has to be done individually, but children who are capable of this sort of calculation can derive a sense of satisfaction from the creation of such work.

From this work came more on 3-D geometric shapes (houses for the inhabitants of the Planet), some fine art and creative writing.

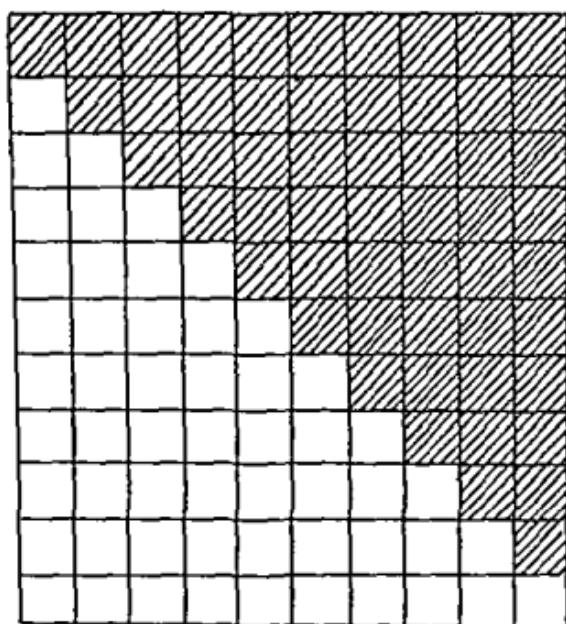
Children will learn much of the mathematics vocabulary and techniques resulting from needs arising in their recording of experiences. However, it is up to the teacher to step in and give the opportunity of practice in the use of the vocabulary and technique.

I find it useful for the children to have two books in which to work:

For practical work

For mechanical examples and practice following the teaching of a new concept.

These books seem most practical if they contain squared paper. Children find

Composition of 10

$$\begin{aligned}0 + 10 &= 10 \\1 + 9 &= 10 \\2 + 8 &= 10 \\3 + 7 &= 10 \\4 + 6 &= 10 \\5 + 5 &= 10 \\6 + 4 &= 10 \\7 + 3 &= 10 \\8 + 2 &= 10 \\9 + 1 &= 10 \\10 + 0 &= 10\end{aligned}$$

difficulty in keeping figures in columns which are essential for accurate calculation. They need constant guidance and practice in putting figures in correct columns, drawing straight lines, and measuring accurately. This is helped by squared paper.

In my own class, children have small cards which are carried in these books which I am able to use to guide them to the next assignment. Therefore, those children who need more practice at the end of a set piece of work can be transferred to another textbook and have fresh work while still perfecting the same skill. Likewise, a child who has obviously mastered a skill need not waste time and energy in repetition.

How a teacher sets up a mathematics scheme within the classroom depends very largely on the books and apparatus accessible in the school.

I have never yet worked in a school where there have been enough of any one set of books for each child to have one for his very own. In fact, it is often 15 books to be shared by 40 children. This is because we rarely use textbooks in sets since the children are always working at various levels.

Sometimes it is more economical to split two books and mount consecutive pairs of pages on cards and cover with transparent protective material. With a colour coding system this can be useful because rarely does a child need to work every page of a book.

Once the needs of a particular class are evident, the teacher probably finds most satisfaction in making work cards to suit these needs.

Here are a few of the ones made for 9 year olds.

From this point it depends on each individual how his programme in maths is set up. I try to keep a balance between class topics (providing work at different levels for different children) individual work, mechanical practice and oral work.

I like to see the childrens' work twice a week and ensure that some work in maths is performed each day by everyone. There cannot be a rigid schedule or much of the valuable spontaneous work would be lost, and often when there is a real enthusiasm for a class topic it will be pursued for several days.

I will say here that I still find the need for teaching multiplication and weights and measures tables but we do approach this by discussion and practical experiment. The children learn that multiplication is a method of adding groups which all contain the same number, and build up weights and measures charts from their own experience. For example, when a child is weighing something he is given the opportunity for plenty of practice to learn the meaning of heavy and light and heavier and lighter. He is then encouraged to record his findings even if it is only orally. He begins to see some order such as:

"The jar is heavier than the cup."

"The cup is lighter than the jar."

"The jar is heaviest, the cup comes next, the spoon is lightest."

The children soon see the need for some standardization in measurement. They also realise that some of the more common tables are even more useful if they are committed to memory as it aids a quicker result to their calculations. Another

## About Cars.

Has your family one or more cars ?

What kind ?

1. Find out how many children in your class have cars in the family.
2. Make a graph to show this information.
3. Which cars seem to be most popular ?
4. Take a count of cars which pass a given point during 10 minutes. Make a graph to show how many of each different kind there were.
5. Which car was most common ? Is this the same make which was most popular in the class ?
6. Find out as much as you can about the different makes of car you have on your graph.  
Find pictures, costs, top speeds, gas consumption.
7. From this information discover :—
  - i) Which is most expensive, which is cheapest, which is fastest, which is the most expensive to run etc.

## Using the Alphabet.

(You will need a copy of a newspaper.)

Here are the letters of the alphabet.

a b c d e f g h i j k l m n o p q r s t u v w x y z.

There are 26 letters from which we can make the words we use. Some letters are used more than others.

1. Guess which letter is used most.

2. Take a count of the number of times each letter is used in five lines of your reading book.

Write down all the letters, one on each line.

Every time the letter is used make a stroke beside it.  
(Cross the first four strokes with the fifth one. This makes the total number easier to count.)

e.g. a    # # #    # # #    # # # !

b    # # #    !!!

c    # # #    # # # !!

3. Now do the same for 5 lines in the newspaper.

4. Repeat for 5 lines of your own writing.
5. Make three block graphs to show your results.
6. Now make one graph for all the results.
7. Write out the letters in the order in which you find they are most used.
8. Look up the Morse Code and write the signs beside each letter.  
Can you notice a pattern developing?

## Math. in Your Favorite Book.

1. How many words do you think there are in your favorite story book? To count them would take a long time.

Guess. Write down your guess.

2. Now to check your guess you must use the idea of AVERAGE.

Here are some hints :-

- a) Find the average number of words on a line.
- b) Find the average number of lines on a page.
- c) If you know how many pages have print on them, you can find the answer.

3. Was your guess a good one?

4. Use the same idea with a book of your own writing.

## AGES.

Make a list of the months of the year and then ask each member of the class in which month they have their birthday.

1. Can you find a way to show these records to make them clear?

2. What results can you see from the information you have found?

e.g. can you find the month with most birthdays?

Are there any months with no birthdays?

Are there any months with the same number of birthdays in them?

## Television.

(You will need a T.V. Guide.)

Different people like different kinds of T.V.  
programs.

Some kinds of program are given more time  
than others.

1. Look at the T.V. Guide.  
Look at one day on one channel.

Find out how many minutes are devoted to  
programs of the following kinds :-

- i) Variety
- ii) News
- iii) Childrens' Programs
- iv) Documentary Programs
- v) Drama
- vi) Films
- vii) Sport
- viii) Other programs.

2. Show how the day's viewing is divided by
  - i) making a graph
  - ii) dividing a circle to show what fraction of the total time is devoted to each kind.
3. For how many hours and minutes is the transmitter working each day?
4. Can you think of any other mathematics to do with T.V.?  
Make a list of your ideas.

## Sets.

1. Find a set of objects which interest you.

e.g. buttons  
stamps  
toy cars      etc.

See how many ways you can divide them.

e.g.  
· colour  
size  
shape

2. How many ways can you find to record what you have found out?

3. Put down your recordings and see if a friend can understand them.

## Pets.

1. Take a count of the pets kept by the children in the class.

Divide the pets into the following groups and say how many there are in each.

Dogs

Cats

Birds

Rabbits, Guinea pigs, Hamsters.

Turtles

Fish etc.

See if you can find some pictures to copy or cut out.

2. Find out how much it costs to keep each pet for 1 week.

Write down the costs.

See how many ways you can record your findings.  
Which is the most expensive?

3. Which pets eat the most in weight?

4. What fraction of the class have pets?

5. How many questions can you make up about what you have found out?

Write the questions and work out the answers.

reason for the building-up method of teaching tables is that it enables the children to find their own errors. If tables are learned by rote and a mistake occurs, a child often has no idea how to find out where he went wrong.

As long as the children are not required to commit these tables to memory before they have a real understanding of them, they can often be encouraged to work at them with interest.

When working at multiplication tables, Junior children are usually fascinated by the patterns which emerge. Quite young children are able to count on in 2's and 3's. Once there is an understanding of the way the number increases consistently Junior Children find it easier to work with 2's and then 4's and 8's recognising the relationships of these numbers.

3's, 6's and 9's can be dealt with in the same way.

5's and 10's are often learned very early on. This just leaves 7's, 11's and 12's.

I often join the 12's onto the family of 2's, 4's and 8's and then show how it fits with the family of 3's, 6's and 9's.

The 11's are very easy and the children seem to have little difficulty in mastering this table. This just leaves the 7's which can be taught alone and are often remembered well just because this is the "odd man out."

The children delight in the realisation that once one table is known, a small part of all the others is also known. e.g.  $6 \times 2 = 12$  in the  $2 \times$  table and  $2 \times 6 = 12$  in the  $6 \times$  table.

Personally, I feel strongly that the children should have plenty of practical equipment for as long as they need it for learning mathematical concepts. Obviously some children need help to discard these "props" but there seems little point in forcing children to perform abstract calculations until they have a real understanding of the numbers with which they are dealing.

In particular, while working on multiplication, the children should be able to see (with the use of blocks, beads or counters if necessary) that:

3 groups of 4 is the same as 4 groups of 3. Also that 12 can be made into either of these groupings.

A game much enjoyed is "Table River." Two lines are drawn on the blackboard to represent the banks of a river. Stepping stones are drawn each with a number between 1 and 12. Children take turns to cross the river. They are given a number by which they must multiply each of the numbers on the stones to reach the other bank.

The class is encouraged to concentrate as they are allowed to shout "Splash" if a mistake is made and the traveller misses the stone! This can be played in teams.

Bingo games for multiplication and weights and measures can be made quite simply. The caller calling the question from a card which also has the answer. The players with the cards only have the answers.

When the children are more competent the game can be adapted so that the caller gives the answer and the player must recognise the question.

Children often enjoy making these games for themselves.

Much reinforcing work can be done to help them such as a 144 squares on

Table SquareSquare ~ showing 4x and 8x

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132
133	134	135	136	137	138	139	140	141	142	143	144

(The children would shade these in different colors).

It can be seen that 8 is twice as big as 4,  
 that there are 3 groups of 4 in each group of 12.

which they can colour in squares to show the patterns the different tables make. A transparent sheet can be placed over one of these grids and children can use different coloured counters to mark the answers of several different tables in one family to help them to see how they relate to one another.

Many small projects can be set up on work cards to help give practice on new concepts.

This one "Holiday by the Sea" is one I made for the children when it was evident that Britain was going to convert to Decimal Money and, in time, to Metric Measure. (I have adapted it here to American and Canadian Measures.)

The Map, Ticket Chart, and Timetables are on separate coloured cards covered with transparent adhesive and kept in a folder with a cardboard model clock showing the 24 hour clock. This clock has hands fixed with a brad to enable the children to move them to help work out times.

The work cards are set up in Chapters so that the child can make a book of the recordings. If the questions are answered in sentences, a story will emerge.

This type of project can be set up for individual children to make work more attractive.

### CHAPTER 1 — PLACES

These questions are set up in such a way that at first the children only have to find the places on the map and copy them down.

### CHAPTER 2 — DISTANCES

At first these questions require the children to look at the map and copy down the distance between two points. (1 - 6). Then the children are required to add two distances together. (7-11).

The last four questions (12-15) involve some which require 3 distances added together. All the distances are multiples of 4.

### CHAPTER 3 — TIMETABLES

This part of the game involves the use of the 24 hour clock. In Europe, all timetables are written using the 24 hour clock to avoid confusion between A.M. and P.M. times.

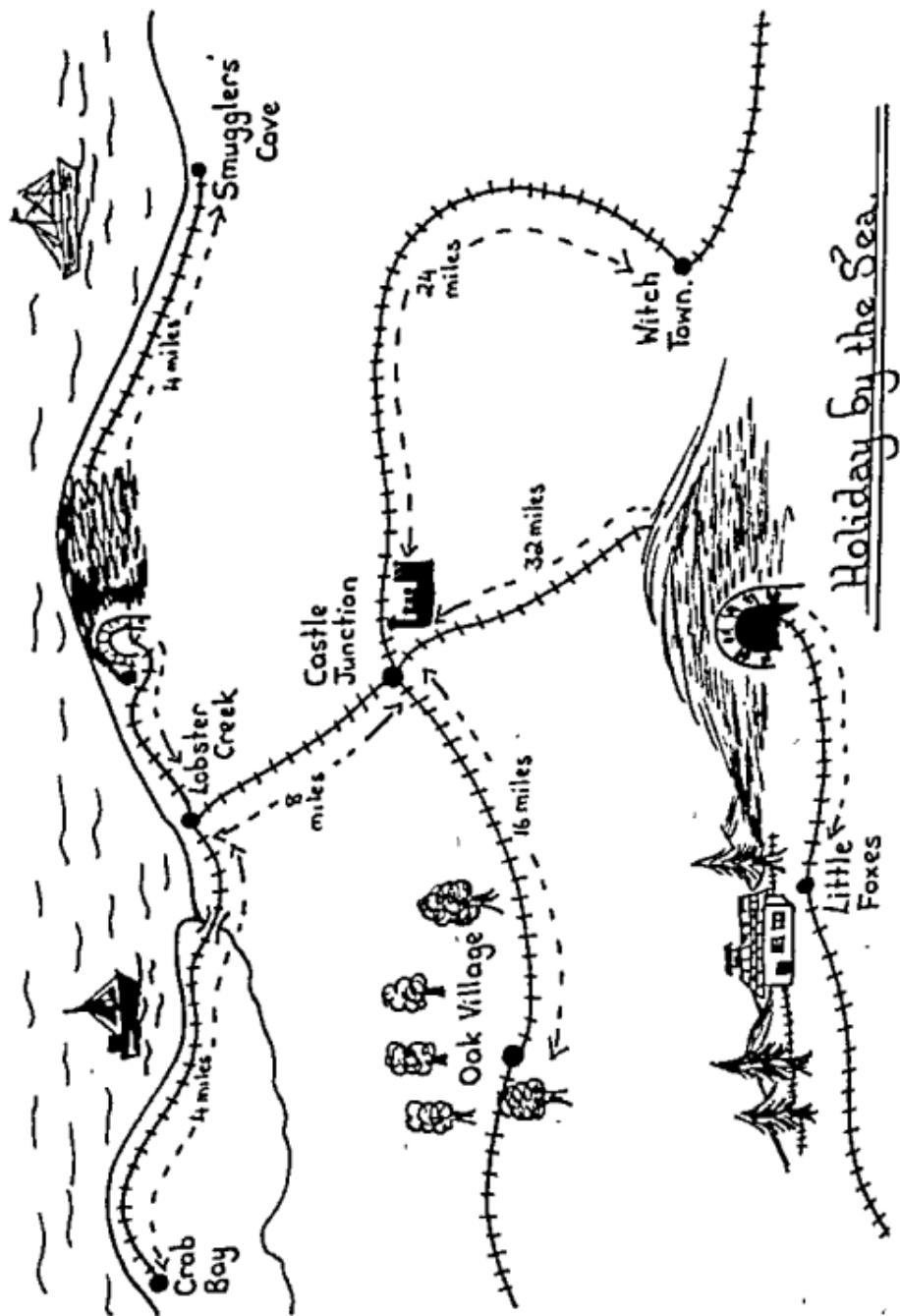
Again the first questions only require the children to find the information which is written on the cards.

Later they have to follow the timetable to find the times trains arrive having been given the time of departure.

Eventually the children are required to calculate the amount of time taken on a journey.

Calculations of this sort are difficult because subtraction in time means changing an hour into 60 minutes.

This section can be made more complicated by giving ARRIVAL and DEPARTURE times at each station.



<u>Ticket Prices</u>	Little Foxes	Castle Junction	Oak Village	Witch Town	Lobster Creek	Smugglers' Cove	Crab Bay
Little Foxes	\$3.00	\$5.00	\$6.00	\$4.00	\$4.25	\$4.25	
Castle Junction	\$3.00	\$2.00	\$3.00	\$1.00	\$1.25	\$1.25	
Oak Village	\$5.00	\$2.00	\$4.25	\$3.00	\$3.50	\$3.50	
Witch Town	\$6.00	\$3.00	\$4.25	\$3.25	\$3.75	\$3.75	
Lobster Creek	\$4.00	\$1.00	\$3.00	\$3.25	50¢	50¢	
Smugglers' Cove	\$4.25	\$1.25	\$3.50	\$3.75	50¢	\$1.00	
Crab Bay	\$4.25	\$1.25	\$3.50	\$3.75	50¢	\$1.00	

# Smugglers' Cove / Crab Bay

Smugglers' Cove	7.00	10.20	16.00	19.20
Lobster Creek	7.15	10.35	16.15	19.35
Crab Bay	7.25	10.45	16.25	19.45
Crab Bay	8.30	11.30	15.30	19.30
Lobster Creek	8.40	11.40	15.40	19.40
Smugglers' Cove	8.55	11.55	15.55	19.55

Oak Village / Witch Town

Oak Village	7.15	8.00	12.10	15.30	19.00
Castle Junction	7.50		12.45	16.00	
Witch Town	8.10	8.45	11.15	16.20	19.45
Witch Town	6.15	9.30	11.15	17.05	
Castle Junction	6.35	9.50		17.25	
Oak Village	7.10	10.30	12.00	18.00	

Little Foxes/Witch Town

Little Foxes	7.00	9.10	13.15	18.20	21.05
Castle Junction	7.45	9.50	14.00	19.00	21.50
Witch Town	8.15	10.25	14.30	19.30	22.15
Witch Town	8.20	10.30	14.45	20.00	22.20
Castle Junction	8.45	11.00	15.15	20.30	22.50
Little Foxes	9.30	11.45	16.00	21.15	23.30

# Castle Junction / Smugglers' Cove

Castle Junction	8.00	10.00	14.00	17.00
Lobster Creek	8.20	10.20	14.20	17.20
Smugglers' Cove	8.35	10.35	14.35	17.35
Smugglers' Cove	9.00	11.15	15.20	20.00
Lobster Creek	9.15	11.30	15.35	20.15
Castle Junction	9.35	11.50	14.05	20.35

## Chapter 1. Places.

1. Which two places would you be travelling between if you went over a bridge?
2. If you travelled through a tunnel where could you be going?
3. Which station is named after a tree?
4. Which station is named after a kind of animal?
5. Which station is named after a building?
6. Which two stations are called after shellfish?

## Chapter 2. Distances.

How far is it from:-

1. Little Foxes to Castle Junction?
2. Castle Junction to Oak Village?
3. Lobster Creek to Crab Bay?
4. Smugglers' Cove to Lobster Creek?
5. Witch Town to Castle Junction?
6. Lobster Creek to Castle Junction?
7. Oak Village to Lobster Creek?
8. Smugglers' Cove to Crab Bay?
9. Witch Town to Lobster Creek?
10. Witch Town to Oak Village?
11. Oak Village to Little Foxes?
12. Smugglers' Cove to Witch Town?
13. Crab Bay to Witch Town?
14. Lobster Creek to Little Foxes?
15. Oak Village to Crab Bay?

## Chapter 3. Timetables.

There are 4 timetables:-

Little Foxes → Witch Town

Oak Village → Witch Town

Castle Junction → Smugglers' Cove

Smugglers' Cove → Crab Bay

You will need to look at all of them.

1. What time does the first train from Castle Junction leave for Smugglers' Cove?
2. What time does the last train leave Castle Junction?
3. How long does the 12.10 from Oak Village take to travel to Witch Town?
4. What time does the 14.45 train from Witch Town arrive at Little Foxes?
5. Does the 11.15 train from Witch Town stop before it gets to Oak Village?
6. What time does the 10.20 train from Smugglers' Cove arrive at Lobster Creek?
7. What time did the train which arrives in Castle Junction at 20.35 leave Smugglers' Cove?
8. What time did the train which arrives in Witch Town at 19.30 leave Little Foxes?
9. What time did the train which arrives in Castle Junction at 17.25 leave Witch Town?
10. How long does the train which leaves Oak Village at 8.00 take to reach Witch Town?

## Chapter 4. Tickets.

How much does it cost to travel from:-

1. Castle Junction to Crab Bay ?
2. Smugglers' Cove to Oak Village ?
3. Oak Village to Crab Bay ?
4. Witch Town to Little Foxes ?
5. Lobster Creek to Castle Junction ?
6. Crab Bay to Witch Town ?
7. Oak Village to Little Foxes ?
8. Crab Bay to Smugglers' Cove ?

Return fares cost twice as much as single fares.

How much will it cost for a round-trip between:-

1. Lobster Creek and Crab Bay ?
2. Oak Village and Lobster Creek ?
3. Castle Junction and Witch Town ?
4. Little Foxes and Smugglers' Cove ?
5. Crab Bay and Witch Town ?

## Chapter 5.

### Holiday at Smugglers' Cove.

Peter and Susan live at Little Foxes. They are going to spend a holiday at Smugglers' Cove with their parents.

Plan the journey for them.

Record the times of the trains they catch, where they change trains, how long they have to wait for the next train and how long they take to do the journey.

How much does it cost each person?

How much does it cost the whole family?

## Chapter 6.

### A Visit to Witch Town.

John and Jenny live in Lobster Creek.

They have saved up to go to the big  
Halloween Festival at Witch Town.

How far will they have to travel?

Where will they change trains?

The Festival starts at 2.30 p.m.  
What time will they have to leave Lobster Creek?

The tickets for the Festival cost \$2.00 each.  
How much will the train tickets and entrance  
to the Festival cost each of them.

What will be the total cost be for both of them?

## Chapter 7. From Oak Village.

John and Jane live in Oak Village.

Make up a journey for them.

Draw a map

Make a list of train times which they need.

List the cost of tickets.

Make a note of the distances they travel  
and work out total expenses.

### CHAPTER 4 — Tickets

The first questions are constructed so that the children can follow the chart and copy down the price of tickets. Then the calculations involve adding together the price of two single tickets to find the price of a round trip.

### CHAPTERS 5 & 6

These are story cards where the children are asked to follow "guide questions" using the information available to them.

### CHAPTER 7

This card is open ended, giving the children the opportunity to use the information and record a journey making it as simple or as complicated as they like.

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If this type of work is to be used with children with difficulties in reading and writing, more can be made of the pictorial name places to help them recognise them.

To help these children make a start the questions can be written as statements with spaces for the children to fill in the information. However, I feel that children should learn to record their work for themselves as soon as possible as it helps in their understanding.

## Holiday in Holland.

### Card 1. All about the Country.

Find out all you can about Holland. What are the buildings like ? What do the people wear ? What is made there ?

Look for Holland on a map of Europe. Try to find it on a map which also shows the British Isles.

Find a picture of the Dutch flag and copy it.

What is another name for Holland ?

Who is the Queen of Holland ? Where does she live ?

Where is the Dutch Parliament ?

Use the answers to these questions to help you make up a folder of information for the clients of your Travel Agency.

Don't forget a map ! Perhaps it is better to trace one as it is important for a map to be accurate.

## Card 2. Routes and Timetables.

1. Plan a holiday in Amsterdam.
  - A. By flying from London Airport.
  2. By sailing from Harwich to the Hook of Holland, and then driving to Amsterdam.
- A. AIR.
  1. Look up the B.E.A. timetables and see when you can leave London.  
Explain which flight you will take and what kind of aircraft it is.  
Will you have a meal on the flight?
  2. Make a timetable to show several flights including the one you will take.
  3. Look up what time the coach leaves to take you to the airport.
  4. What time will you leave Nottingham by train?  
How long does the journey to London take?  
Which station will you arrive at?

5. Look at the Underground Map. The West London Air Terminal is at Gloucester Road. Draw a plan showing the route you will take to get there.
6. Also copy a road map and show the route you would take if you went by taxi.
7. Draw a map showing England and Holland. Mark on Nottingham, Harwich, London, the Hook of Holland and Amsterdam.

### B. SEA.

1. Look up Sealink ferries to Holland.  
Find out the times of the ferries. Decide which one you will take and say how long it will take to cross.  
Which sea will you be crossing?
2. Look in the A.A. book and find out how far it is from Nottingham to Harwich. If your car travels at an average speed of 30 miles per hour, how long will the journey take?

3. Find out how far it is from the Hook to Amsterdam. Travelling at the same speed, how long will this part of the journey take?

### Card 3. Cost.

#### A. AIR

1. Find out how much it will cost to travel to London by train.
2. Find out the cost of the coach to the airport and add 20p. to this for the Underground fare.
3. Find the cost of the Single fare from London to Amsterdam.  
Find the cost of the Return fare. Is it cheaper to buy 2 single tickets or 1 return?
4. Find the total cost of the journey.

## B. SEA.

1. Find out how much it will cost for you to travel from Harwich to the Hook.

Find out how much it will cost for your car.

2. If your car will travel 30 miles on 1 gallon of petrol, how many gallons will you need to travel from Nottingham to Harwich?

If petrol costs 35p. for one gallon, how much will it cost to get from Nottingham to Harwich?

3. Distance in Holland is measured in Kilometres.

If your car travels 30 miles on 1 gallon, about how many kilometres is this?

How much will it cost to travel from the Hook to Amsterdam?

4. Find out the cost of the whole journey  
(single and return).

## Card 4. Currency.

1. Find out about some of the places of interest you can visit in Amsterdam and the places around it. See if you find some pictures to illustrate your work.
2. Find out what currency the Dutch use.  
Copy a table to show the conversion of English money to Dutch money.
3. How much will your journey cost in Dutch money?
4. Give examples of the cost (in Dutch money) of some visits you can make during your holiday.

### HOLIDAY IN HOLLAND

This is another project created for group work with 10 and 11 year olds.

I wanted to do some work with the children on conversion tables and knowing that it was beyond some members of the class I knew I would have to do it with a group. Rather than select the group to do this work on their own I put it together with work on distance, time, speed, etc. as if we were a Travel Agency.

We had a competition within the class for an emblem for the Agency, and then we decided the countries to which we would organise our holidays. Some children had knowledge of some countries, some chose the place on which we could gather most information. We decided on a main city in each case to make the search for information less arduous. We chose:

Edinburgh, Scotland

Carmarthen, Wales

\*Amsterdam, Holland

Rome, Italy

Salzburg, Austria

Paris, France

These cards (a set for each country) were put into folders and displayed with maps, timetables and fare charts for Air Lines, Sea Ferries and trains.

I tried to stimulate the children to find out as much as possible about the country and the people and the way of life as well as the amount of money and time spent on journeys and distance travelled. The children were encouraged to find as many ways of travel as possible and to present their work in an original way and to illustrate widely.

The result was better than I expected. The children not only made tickets, planned routes and worked out expenses, they converted money, drew maps, and found pictures in geographical magazines. Everyone joined together to mount a display showing the flags and costumes from each country together with charts, graphs and calculations.

Though the most able children worked all the cards, there were enough to occupy every class member in producing work for the final display. Some of the more able children struggled with vast calculations, e.g. one girl not only calculated in miles from Nottingham to the coast of Europe, and in kilometres from the coast to Rome, she converted miles to kilometres and kilometres to miles so that she could quote total distance from start to finish in both measures.

This whole project was set for the particular class who worked with it. I knew the children had access to information from Travel Agents and all the necessary timetables. They had made a journey to London by train and many had visited the airport.

Even the weakest understood the twenty-four hour clock, understood simple scales, and there were only three weak readers in the group.

The speed and petrol consumption of the imaginary cars were purposely kept simple.

Many concepts were involved in this work, but it made an interesting study to end the 4th year maths work.

## Art & Craft

**A**UCH can be expressd by a child through his work in Art and Craft.

Most children like to make things and derive a sense of satisfaction from these activities.

I should like to see all classrooms with materials for art and craft always accessible to the children. Of our nine classes in the Junior Department, only one has a sink in the classroom. The children have to carry water from cloakrooms for painting and with over forty in a room designed for thirty this is not an easy situation. However, with training, the children learn to cope — in fact, few of them have ever known anything different.

Of all lessons, organisation is probably most necessary here. Chaos can so easily develop if the children are not trained to consider one another. Once they are familiar with the places where materials are kept (it helps to have paint pots near the door if water has to be carried from elsewhere and the equipment has to be taken out to be cleaned) and realise the necessity of cleaning and returning implements to their places, a system to help all can be developed.

It helps to have specific children assigned to check these areas at the end of each day, but each child should learn to be responsible for any equipment they use and see that it is put away where it belongs.

There seem to be two aspects of Art and Craft lessons:

1. The free expression of the individual.
2. The teaching of techniques to be used.

A combination of these two seems to be the ideal situation, but here again the techniques need to be studied on an individual or group basis. Standards should never be sacrificed for the idea that self expression alone is all important. The children need to strive for improvement all the time.

Here is a subject which illustrates how a teacher can use an "open situation" to suit the needs of the individuals within a class. Art and Craft can be completely "free choice" as to subject and use of available materials. In painting, a free choice of subject can be given but with limited colours and tones of those colours. The teacher can organise the children so that only one section is working at Art and Craft or so that each section is working with a different technique. He can direct the children into a combined effort or put forward the subject to be executed and leave the children to work at it with any of the materials provided.

Children should always be encouraged to finish whatever they start, even if the end result is not what they had in mind. Sometimes a rest is needed, particularly in painting, but a child will come back to it after a few days and often turn what

looked like a disaster into something quite presentable. Children should also sample all the techniques possible with the materials available. Some need encouragement to work with new materials. (They like to continue working with those with which they know they can succeed.) This should be done surreptitiously. When the teacher notices a child who always opts to tackle the same materials he can step in and discuss the possibilities of working at something new, of working with another child, or working at a group project.

Every child must experience a balance between success and failure if he is to develop into a stable adult. Recognition of failure when help is at hand is easier to accept.

Children's maturity levels are shown up best in their work in art. Their natural representations vary tremendously as does their degree of precision. Therefore, set lessons in drawing and painting are bound to be experiences of failure for many. Most will be aware of their capabilities. The failure when experimenting with new materials will be enough. It, therefore, is better to observe each child and proceed from the point at which he is, especially when teaching such techniques as perspective.

Class lessons can be given on colour mixing, putting a "flat wash" onto the paper before drawing figures, kneading clay to rid it of air bubbles, cutting balsa wood without snapping the blade, etc. but when it comes to the actual composition, it is important that the individual be left to compose his own. Nothing can be more depressing to a child than to have a clear idea in his mind about the face for a clown and be forced by the teacher to create a different one.

The children must be allowed to prepare their own materials whenever possible. There is little satisfaction to be gained from sticking cut out shapes of paper onto positions pre-determined by an adult. The result may be a balanced pattern or picture but will not be what the child has chosen to create.

For some, this kind of direction will result in feelings of frustration which they will make known, while in others it will lead to a lack of confidence with which they will have difficulty in coming to terms as they get older.

Much discussion needs to take place in connection with art work. Some children need help in the choice of colour or type of material needed. They should be encouraged to know how to make a choice, not be dictated to but equally important, not to take the line of least resistance and choose the first thing which comes to hand.

Often it is hard as a teacher to stand back and let children choose something which we would not, but everyone has a right to their own opinions and what a child will choose at 7 years, he would not look at when he is 10 years old.

Sometimes there are some surprisingly good Art and Craft results and as we get to know the children we can distinguish between those who have ideas which differ from our own and those who need more guidance.

Children have a natural sense of curiosity and they should be allowed to feel textures of the materials they are using so that they learn with which materials they like to work. Sometimes this poses difficulties if materials are limited, but you can only do your best with what you've got! There should be a variety of

materials available and the number accessible at any one time can be determined by the teacher. Familiarity does breed contempt and a material, e.g. clay, which is put away for a while and brought out again a few weeks later, is greeted with new enthusiasm.

Personally, I should like an unlimited supply of every Art and Craft material on the market, but this is always likely to be an unrealised dream!

I do like several kinds of paint — powder, poster, etc., and I like the children to mix their own colours, but I know some teachers prefer to use one kind of paint and limited supplies often make this a necessity.

It costs nothing for two very valuable items for the Art and Craft work in the Classroom — BITS BOXES.

One of these can contain scraps of fabric while the other can house boxes, corrugated card, string of different thicknesses, yarn reels, cartons and anything else which can be incorporated into works of art! Even newspapers can be transformed into attractive pictures by using cut out squares of different sized print and used to compose a mosaic picture.

There needs to be a good supply of adhesives. Some for work with paper which do not smear and mark when dry and some strong enough to hold bulky items together.

Some children will set off on a piece of work, such as a model, which will need several weeks for completion. Storage is usually the main problem and if there is a shortage of space there is no easy answer. In fact, there often is *no* answer and the children will have to content themselves with smaller models than they would really like or take their larger models home each night and return with them the next day.

There are many materials which are commonly used in the classroom.

All children like to sew and make models. In the past, the former has been taught to girls and the latter to boys. This distinction is being eradicated. Boys delight in sewing to make puppets and I have known boys who have perfectly done complicated embroidery stitches and who have conquered the intricacies of knitting and crochet. Likewise, many girls like to wield tools for work with balsa wood.

Lino cuts and scraper board, tissue paper and coloured inks are more items. If there is no scraper board available, children can make their own. White cards can be covered with coloured wax crayon — and put on thickly in blocks of colour. Then the whole area is covered with black wax crayon until the colours are covered. The picture is then made by scraping the black wax to reveal the colours beneath.

Wax crayons can also be used for wax resist. The picture is drawn in wax (either a crayon or candle) and then a coloured wash paint over the picture. The wax resists the paint or dye and gives an unusual effect. This can also be done by dropping melted wax onto material and then dying the material.

Tie-dying is another activity enjoyed but is difficult if there is no access to sinks and running water. Dry kitchen ingredients, e.g. rice, lentils, peas, macaroni, give a variety in texture.

Fabrics cut out and stuck onto paper or sewn onto a piece of material makes a change from the usual painted pictures.

Clay is a medium in which children like to work. If the school has a kiln, some lasting models can be made and fired, but without one the children can still be taught to knead clay and produce models which can be dried and painted.

Pencil crayons, pastels and charcoal can give pleasing results when children have developed control and precision.

Paper Sculpture and other paper folding activities are always popular.

I do not think it is necessary for every teacher to feel that he has to be artistic to teach Primary Children Art and Craft. I am sure that the important factor is the willingness to put the materials in front of the children, to organise the equipment, to have plenty of examples available to show them, and to be prepared for the amount of experimenting which will take place.

When starting work with a new class it is wise to begin with a few materials and introduce more a few at a time. When the class and teacher know each other, then a wider range can be offered, and the teacher will observe who can help others with various techniques and which children need to be encouraged into work with new materials.

Children should be guided to take notice of texture and shape in the world around them. Many children need help in noticing colours in nature, e.g. the variations in sky colour and the shades of green on different plants.

There are many exciting compositions of shape used in advertising materials and these are easily obtained from magazines for observation by the children.

Care should always be taken in the presentation of the work produced by the children. Pictures should be mounted and whenever possible care taken to choose a colour of mounting material which heightens the picture and doesn't detract attention from it. The method of display of the children's work helps them in choice of colour and balance of their compositions.

Much language can come out of Art and Craft work with discussion and class lessons on appreciation (of both the children's work and that of known Artists). The subject cannot be isolated as it does much to enhance other subjects, e.g. drawings in Science and Natural History, illustrations of stories and environmental studies, models in science and project work. For children of less academic ability this is often a starting place for the development of language skills.

# Eleven

## Music

MUSIC is a very natural part of the life of a child and in the Infant classes particularly it is important that music (song, rhythm and movement) be spontaneous and enjoyable.

Because of the importance of the spontaneity in this subject, it helps these young children if each teacher gives his own lessons rather than having a special teacher for this purpose.

Although most children have an inborn sense of rhythm and respond unconsciously they have to be taught to listen in order to contribute to group music making.

Enjoyment should always be the first aim in the teaching of music. Enjoyment comes through participation. Thus children nearly always enjoy playing an instrument of some kind.

The body is a ready-made instrument. The children can use their hands and feet to clap and tap, nod their heads as well as use their voices. Even at these early stages of growth children should be taught care and control.

There should be access to instruments but the children must treat them with respect. If the children are not shown how to use instruments with respect, many of them will make unmusical noises.

The first techniques to be taught must be BEAT and RHYTHM. All through the teaching of these techniques, LISTENING must be stressed. Children imitate and the art of music is "CAUGHT not TAUGHT." The beat can be felt as a pulse and the children can hear it and tap or clap. (This accompanying tapping or clapping should only be as loud as it can be without interfering with the listening. If many children are clapping they should be asked to use two fingers to clap on the other hand.)

Once the children can recognise the beat, they can listen for rhythm. They can chant their names, titles of favourite T.V. programmes, names of football teams, etc. and clap the rhythms. Several rhythms can be superimposed over the beat.

At this young age, children should be encouraged to participate. Most young children are unselfconscious about performing and those who are shy can often be persuaded to overcome their shyness. This is harder as the children become older.

Action songs are taught to young children and should be chosen for their constricted range. Young children hear within confined limits and songs which move step by step rather than in leaps and bounds are more successfully achieved. The actions relate to the words and often emphasise the direction of the scale. The teacher can help here by using a hand to indicate steps UP and DOWN.

Even with these early songs, the children should be encouraged to listen to the sounds they are making with their voices. It is easier for them to reproduce a note made by a human voice than the harsher sound of some musical instruments. Teachers should never be afraid to demonstrate. For tunes which only move within a restricted area, the key is irrelevant.

Songs which tell a story and have lines sung by different characters are ideal for children to become used to performing before their peers. They can sing these lines in small groups and eventually as individuals.

When introduced to instruments the children must be shown how to obtain the most musical results with them. Most children like a turn and again it is important to encourage confidence in their performing. Several "games" can be played. The teacher can clap rhythms for the children to imitate. The children can make up rhythms for others to copy. The teacher can tell a story in which the instruments are mentioned and the children can listen for their instruments and tap their rhythm when they hear it.

A guitar is an ideal instrument for simple accompaniments for young children in the classroom. It can embroider the sound made by the voices and the children are excited by this.

As the children respond to this kind of work, they should have access to musical instruments on which to make their own music. There should be both pitched and unpitched percussion.

According to the classroom set up, the amount of time allowed for free access will vary. In some spacious classrooms it is possible to have a Music Corner to which the children can go at any time. In many schools this is not practicable either because of lack of space or shortage of instruments. Also some teachers find it disturbing to have musical instruments played at any time. Whatever the arrangement, the children must be taught to play the instruments quietly, and with consideration (for the instruments and the other people in the room.) Once they have mastered some elementary techniques they will understand that the instruments are for experimenting with music making, not to "bash" and make an uncontrolled noise.

When using pitched percussion, e.g. glockenspiel, xylophone, chime bars, children are overwhelmed with too many notes. They find it easier to use the PENTATONIC SCALE.

The other notes are removed and when making up accompaniments, the children are asked to choose two notes on the pentatonic scale. These are played as an ostinato (repeated line) to accompany a tune. This can be developed.

A group of 2 pitched and 2 unpitched can work together. It is essential that the children count. The decision must be made to count in 2's or 3's.

One unpitched plays on the beat and the other makes up a rhythm to go over it.

One pitched instrument begins to play a tune on the pentatonic scale.

Second pitched instrument begins an accompaniment using two notes on the pentatonic scale.

This kind of work gives a freedom within limits and the children achieve satisfying results.

## 2. Music Workshop Stage II for the older children.

There are three series each year, and the programmes build up towards a concert at the end of each term. There is always a theme running through the series, e.g.:

The Adventures of Aladdin

The Wild West

A visit to Paris

The Pennine Way (a journey along the hills known as "the backbone of England.)

All the programmes are open-ended and leave the children to experiment between broadcasts and provide their own accompaniments.

We find it easier to tape-record these programmes and work from the tape with the children. Then we can stop and start at will.

An inability to read music should not prohibit the children from enjoyment and participation. At this stage all the children can contribute to the music making in the class. Just as children can be taught to speak without being able to read so can children be taught to sing without being able to read music. If the child is made to feel that he can go no further in the class because he is unable to master the reading of music, he will stop contributing and lose all sense of enjoyment.

There should be an opportunity for children to see the written music as it is heard and to follow it. It must be simple at first so that they are not asked to master too many new ideas at one time. If taken over this new ground slowly, they will be able to recognise the differences in time and value of the notes.

Experimenting in reading and writing music can take place in class. Just as with reading and writing language, the children more readily read music they have written. They find it easier to write down what they have actually heard.

A flannelgraph stave is a useful piece of equipment in a music corner with older children. The children can make their tunes on the instrument, stick the notes onto the stave and play them back. Working in small groups they can make up tunes for each other to play. Working in this way the children will write "tunes" and not strings of isolated notes. They should be helped to critically listen to their compositions.

In order to teach music in this way, there must be a sympathetic attitude throughout the school. The children need to build onto their experiences from year to year. So much learned in music making is all the more valuable for sharing with others. In our school the children learn to listen at an early age. Every morning they listen to music at the beginning of the School Assembly. We often have visiting groups of musicians in school and take groups to concerts in the city. These, as well as our own concerts in school, children will appreciate so much more if they know what it is like to participate themselves.

A sympathetic attitude is needed from the staff if music is going to thrive. For children to take full advantage of their musical abilities in the upper levels of the school they must work for some of the time in ability groups. This means that a team teaching system must evolve unless the school is fortunate enough to have a music specialist as we do.

Many schools give the opportunity for children to learn several instruments. The chance is usually given to children who can already read music. These lessons are taken during school time by peripatetic teachers.

As the children develop their learning techniques then a more sophisticated approach can be made.

Singing — the most natural form of music making begins by imitation and experiment with learned sounds. However, the children must listen to the sounds they make. They can be made aware of the shape of their mouths. If they are encouraged to sing to the sound of AW the sound will be brought forward in the mouth.

(Our children are taught to make their mouths like the dome of St. Paul's Cathedral. An American equivalent might be the Astrodome. This is only to make them conscious of the shape of their mouths.)

Group singing is always fun, but here the children have more demands made of them. They must blend with one another and so must always be listening, not only to themselves, but also to each other.

Most schools which have an interest in music have a choir. We have two choirs — one for the 7-9 year olds, and one for the 9-11 year olds.

In a Junior School the Choir time often comes on the school schedule. This being the case the children treat it seriously, as something accepted by their teachers. It is still regarded as a privilege to be excused from the classroom to attend the weekly rehearsal and the children do not automatically go. They have to have satisfied the class teacher that their work is up to date before they can go.

Auditions are held for entry into our choirs so that the children realise that a standard is set.

The test for our senior choir (9-11 year olds) falls into three sections:

1. Pitching over a wide range. The piano is used here as it is the accompanying medium.
2. Singing unaccompanied to stay in tune throughout.
3. Singing with a group to assess a blending quality.

Within the choir the children are able to raise their singing standards and experiment with new ideas. They learn with exercises using broken chords (octave jumps are hard) and to stagger their breathing. All the time they are encouraged to listen. They are asked to always make sense in their singing and sing in phrases. They are made aware of the importance of good diction.

Many enjoy singing in parts but with children of this age they need to learn their parts separately. If they know both parts, they sing a mixture!

Rounds are hard to sing. It is easier to start half the children on one note and make them concentrate on it. Then the other half can sing a third above. They must listen and blend. It must be stressed that the children listen all the time and do not block their ears to cut off the sound made by others. If they do block out the other sounds they will never learn to blend.

Learning enables more participation and participation gives enjoyment.

Each year we perform two concerts for parents and friends of the school, one at Christmas and one during the summer.

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As was mentioned in Chapter Four with reference to a concert on the theme "The Sea," our concerts have developed into two-part programmes. One reason for this arrangement is our lack of space. With so many children taking part, it is impossible to have performers sitting in the audience. As we perform on more than one evening, the younger children can be taken home during the interval on the evening when their parents are not in the audience.

The dress rehearsals are always performed in front of the school. This gives the performers an opportunity to become used to an audience and to see each other perform and the part they play in relation to the "whole" production.

Performances for the school mean a great deal to performers and audience alike and we try to take every opportunity to let every child in the school feel that they are a part of what is going on.

Each year schools gather for a non-competitive Music Festival. Only those taking part can actually be present at the festival but there is always a performance for the rest of the school beforehand so that the children not taking part can wish well to those representing them.

The enormous success of "Captain Noah and his Floating Zoo" resulted in a tape recording being made by a recording engineer and a disc cut. Also on this L.P. stereo record were works by the Junior choir and hymns sung by the whole school. A cover was designed by one of the 4th year girls and copies were sold throughout the school.

An interesting point, which will never be known to most people who listen to the record, is the real success achieved by the boy who played Noah.

Tim has a powerful voice and clear diction. His performances were faultless. What most people do not know is that Tim has a below-average I.Q. and a reading age several years below his chronological age. He was taught his part section by section and gathered confidence at every rehearsal. In fact, his reading improved during this period as he was encouraged to follow the words as he was learning them.

This year we have been more ambitious. Half of the choir (those who had not left to attend Secondary School) had enjoyed "Noah" and were eagerly waiting to see what was next. The new members of the choir were anxious to take part in something as exciting as the last production.

After Christmas, rehearsals began for "Joseph and the Amazing Technicolor Dreamcoat" by Andrew Lloyd Webber and Tim Rice (of "Jesus Christ Super Star" fame.)

The children, divided into two choirs with two, three and four part singing, rehearsed for five months. With a choir of seventy-three we also had recorder players, pitched and unpitched percussion players and a pop group. We had to incorporate the pop group from the local college of Education. When rehearsals first started we had a guitar-playing student on teaching practice in school. He persuaded two friends to join him and that was one problem solved.

Three children took the solo parts of Joseph, Potiphar and Pharoah and eleven boys played the brothers, who sang as a group. About five weeks before we planned the performance we began to stage the production. The children helped

in making simple costumes and props.

There was tremendous enjoyment obtained from this production. The children gave it every ounce of their energy. They returned to school during a day's holiday for an extra rehearsal under no obligation. They were disciplined and high standards were demanded of them. In return they knew the feelings of success and achievement. Some developed a new-found confidence and maturity. Children who seemed to succeed at very little further down the school became important parts of the whole.

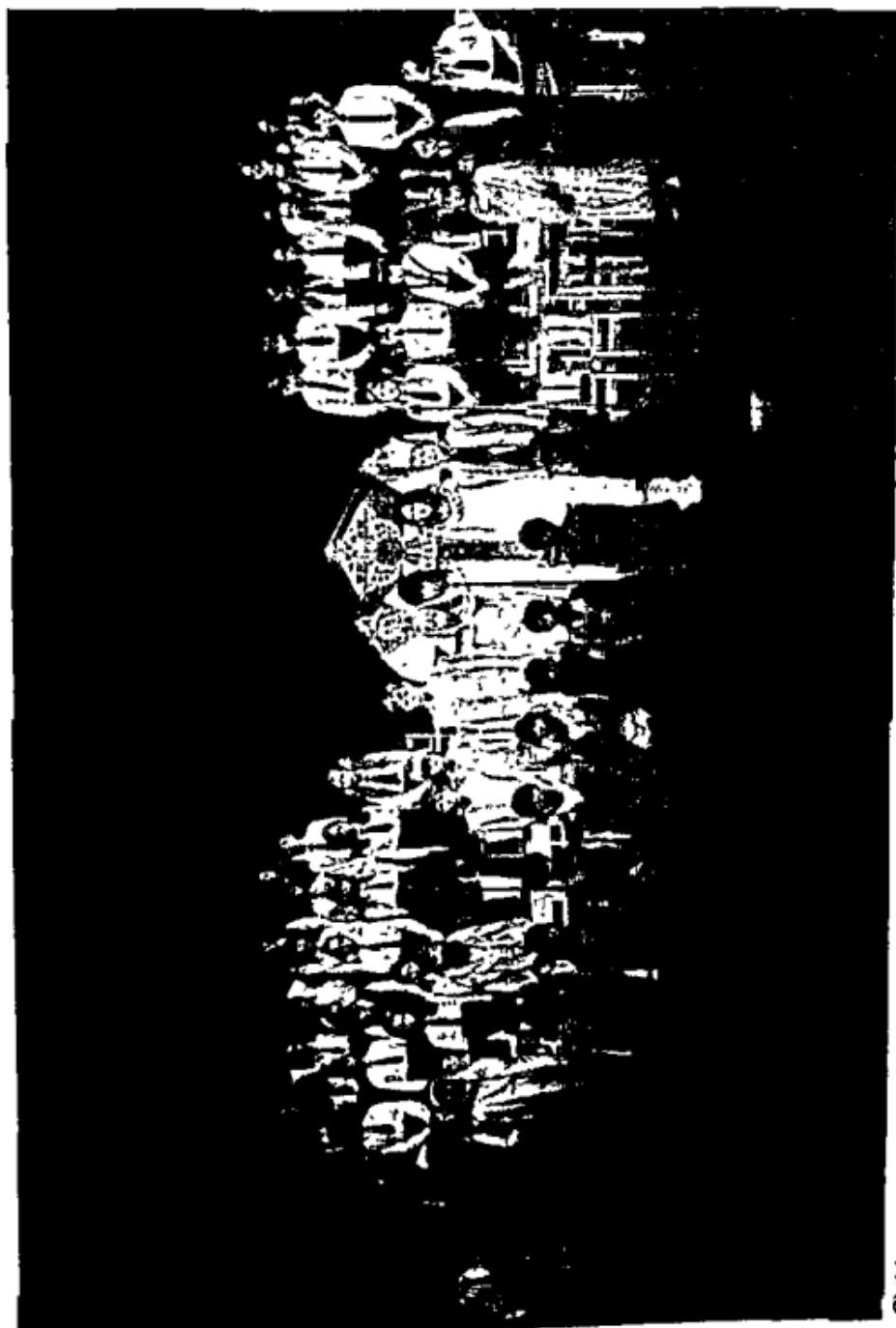
During a break in the recording, some of the children were interviewed by a member of the local B.B.C. station. This broadcast was heard twice. The children talked freely about how they felt concerning the work involved in achieving such a high standard. It was interesting to hear them so excited by it and so obviously thrilled with the results. Several spoke of how they appreciated the work of the teachers involved and how much they *enjoyed doing it and making it "good."*

Now we are at work making posters and compiling programmes for the PlayHouse Performance. This has been more than a musical exercise for nearly eighty children. They have learned so much about working together, self-discipline, and above all the enjoyment which can be derived from participation.

However, this is not the result of five months work. It is the end product of careful training in techniques and appreciation from the very beginnings of musical experience in school.



*The main characters in "Joseph and the Amazing Technicolor Dreamcoat."*



*Children on stage at the Playhouse.*

## Movement

**C**HILDREN need a balanced programme of activities in physical education. Most schools have lessons to include athletic and acrobatic movement, ball games, dance and swimming.

Given the opportunity, children will move. If given the space and freedom, children can be seen moving in a variety of ways. Apparatus which provides the opportunity to climb up, balance on, crawl through, or slide down, is always popular. Water is an attraction which can be used to develop certain skills.

In the Infant Department, much of the programme is devoted to giving the children the opportunity to experiment with the control of their bodies and explore their position in space.

As they progress through the Junior Department, they can follow a more directed programme and use their skills to work with others and as members of a team.

Care must be taken to ensure that the children are not asked to perform skills which are beyond their capabilities at any particular stage of development. It is just as important for them to strive for high standards in these activities as it is in academic studies.

It is difficult to separate the various aspects within this subject. Although the term Physical Education covers them all, we seem to give the title P.E. to the basic gymnastic movements we follow in school. Most teachers seem to divide these lessons into two sections. A third of the time is devoted to floor work and the practice of techniques and the latter two thirds of the time using what has been learnt, and developing it with the aid of apparatus. Some children have natural control and balance. They are able to make the parts of their bodies move simultaneously or independently. Others are clumsy and lacking in control. They have to be helped to land from a jump so that they do not hurt themselves, taught how to balance, and generally to be made aware of themselves as a collection of moving parts over which they do have control.

In classes where there are children from a variety of cultural backgrounds they can learn much from one another, particularly in dance movements.

Most schools have large apparatus with trestles, planks, beams, ropes, ladders and scrambling nets. Organisation is needed from the teacher to ensure the best use is made of all the apparatus (some is more popular than others) but often free choice of activity is allowed. During P.E. lessons, basic skills in throwing, catching and hitting are developed.

In Summer these lessons are often taken outside and the children are able to be

bare-footed. Use can be made of mats, hoops, skittles, bean bags and balls. Some schools are fortunate enough to have climbing apparatus available outside which the children are able to use during recess time.

In Britain P.E. is usually taken in the Main Assembly Hall. The children change in the classroom (only a few new schools are equipped with changing rooms) into shorts, vests and gym shoes. In the summer most choose to leave off the vests. These clothes are kept in slipper bags during the week and taken home to be laundered at week-ends.

The same kit is worn for Dance. Some teachers favour folk dancing and others modern dance. Some teachers extend a music lesson and the children move to their own music. Others extend drama lessons into this time. Whatever kind of dance the children follow they are guided into a kind of movement which is enjoyed for its own sake — shape, pattern, etc. Leaping in dance is different from leaping to clear a hurdle. Much work done in schools to-day follows the teaching of Rudolf Laban.

First experiences in dance encourage the children to express themselves in movement, e.g. strength, weakness, rigidity, flexibility. Smooth, spiky, twisted, flowing, light, heavy, slow and quick movements can be perfected. The children can create patterns and rhythms. They can move to sound, e.g. drum, tambourine, records, or they can make music to accompany their dance.

I had a class who thoroughly enjoyed making up a sequence to the sound of electronic music. Much of the work was abstract but it developed into "An Invasion of Another Planet." Later, in the Junior Department, this kind of movement can become more sophisticated and be combined with Dramatic Work. Once the children have learned to control their movements they are able to learn set dances, such as folk dances, where it is essential that steps are precise and fit with the music. After a time of free expression and help in observation, the children will be able to see the importance of the pattern which is created.

Communication between one child and another is important in dramatic movement. The children must learn to interpret this language. Once the children try to understand one another, the quality of their own movement improves.

Children show different rates of development in all activities and skills in games come more easily to some than others. At the infant level, children "play" on their own within the group but at the junior level the children begin to develop skills with the use of bats and balls. Many games can be invented or adapted to give children practice in these skills and encourage team spirit.

Most Junior Schools have extra games for the 3rd and 4th years (9-11 year olds) and teams are formed to play matches with other schools, in football and netball in the winter and cricket, rounders and stoolball in the summer. We have just acquired a table tennis table and one member of our staff is coaching some of the 4th year children.

Most children have leagues within the school where children can choose their own teams in a particular sport and play a tournament throughout the season.

Schools who have swimming pools nearby are able to take children swimming.

These facilities are available in most cities but in rural areas it is sometimes more difficult to take children over great distances during school time.

During their time in the Primary School, it is hoped that the children will take an active part in all kinds of physical activities and join in group and team activities without being self-conscious. If the team spirit is encouraged, the children can play with the emphasis being placed on the enjoyment in trying to perfect the activity.

## The Use of Facilities Outside The Classroom

### I. MUSEUMS, ART GALLERIES AND NATURE TRAILS

**C**HILDREN respond readily to visits outside the school environment and most localities have places which hold an interest for children. Cities and towns usually have museums, many of which provide special facilities for school parties.

In the City of Nottingham, the Castle houses the museum. There are many displays depicting the history of the Castle from the 11th Century, and much is made of the Lace Industry for which the city is famous.

The Castle is built on an outcrop of sandstone which is riddled with caves. A tour can be made through these at intervals during the day and this is always popular with the children.

On the outskirts of the town is a Park and Hall which was once a family estate. The Park now belongs to the City Corporation and the Hall has been developed as a Natural History Museum. There is a Nature Trail through the grounds and around the lake. There is also an extensive Nature Trail around some gravel pits about five miles from the centre of the City.

Wollaton Hall (Natural History Museum) also provides a museum service to schools. There is a small staff who help make the displays and these can be borrowed by schools for up to a term at a time.

Museums and Art Galleries need to be carefully introduced to children. In most there is an enormous amount on display and too much for a child to digest at once. If a museum or an Art Gallery can be introduced to the children as a source for the answers to their questions, they can become a kind of "living" encyclopedia.

Children will have a natural interest in their local history and if they can be encouraged to look for it themselves, Curators will be only too willing to discuss their findings with them.

In one Cotswold town which is very rich in remains from Roman times and Middle Age Wool Merchants, some schools have formed archaeological clubs and the children, under guidance from teachers, spend their spare time hunting for fossils and paying visits to barrows (burial grounds) and beacons. School visits include a fine barrow near Cheltenham called Belas Knapp and Chedworth Roman Villa which is well preserved. Reports and information on "digs" are saved.

Many schools have nature clubs which often organise walks on weekends. The children learn a great deal when covering the same area at different times of the

year. Walks can be planned on maps and studies plotted at various points. Specimens are collected for further study in school and competitions are held from time to time (e.g. quizzes and labelled collections.)

Much can be done to connect schools in outlying districts with museums in town and often children in town and country can exchange information.

Most museums like children to be accompanied by an adult until a relationship has been established between children and museum staff.

Some local museums provide a section for the use of children. Here they can display their findings. These not only encourage other children, but also the parents of the display makers.

The facilities of the Natural History Museum in London is an example of those provided in large museums. I have chosen this one as I worked in the Children's Centre there on Saturday during my student training.

One aim is to teach the children how to use a museum so that it increases the enjoyment and understanding of their work.

The Museum is divided into sections and through each runs a Trail. School Parties must give notice of their visit and on arrival the children are given booklets containing information to lead them along the trail. There are spaces for drawings to be made and information recorded. In return for these booklets, the visiting schools are asked to provide paper for more books to be made.

On Saturdays and during the school holidays a Club is organised by the museum staff. Members of the Club are regular visitors to the museum and, as candidates, have to work in the Centre for four consecutive Saturdays and work on a project to be presented in book form. The children are encouraged to sketch from actual specimens before turning to books for information.

Although when I worked in the Centre members were supposed to be between the ages of 7 and 17, we have members up to the age of 20. Some stayed to follow up work and others stayed just out of interest to help the younger ones. Members are given all kinds of opportunities to learn in a variety of ways, e.g.:

pond dipping expeditions

fungus forays

One group of older children spent a weekend pot-holing in Somerset during the time I was with them.

One of the main expeditions was to a farm in Surrey which was visited regularly by members of the Club.

These children also had the opportunity to meet scientists who came to the museum to work or lecture.

The Club is also open to casual visitors and for all there are materials provided with which to work. The aim of clubs run by museums is to direct and sustain the children's interest in selected exhibits, and to connect what is seen in the museum with what they can find in books and the world outside. They can also share in creative activities under the guidance of skilled teachers. It has been found that the introduction of young people in their formative stages to museums may arouse the love of beauty in many forms which leads to wider understanding and

sometimes more specialised interests later in life. It seems that children gain more from talks about the museum *after* they have had a chance to discover what it has to offer. The children often retain more if they are provided with a questionnaire to complete. This directs their attention to particular objects. Discussions rather than lectures afterwards are more valuable and it is important that the children feel that their participation is necessary.

One of the first things children long to do in a museum is what they are usually told they cannot — TOUCH. They want to handle the specimens. There is ample evidence which shows that they learn more from being able to touch and with a higher degree of interest. In a Natural History Museum, both living and dead specimens can be provided and visits can be made to the Zoo to see living specimens of the larger animals.

The children are taught to handle both kinds of specimens in a way which minimizes the amount of damage caused. In some cases, where valuable specimens are concerned, copies are made. These are not so satisfactory. Children demand the "real" thing and tend to lose interest in imitations.

The regular members of the Club can choose to work individually or in groups, and often vary this choice depending upon the project under study.

Some museums have special galleries for children with working models. There is a fine example of this kind of gallery in the Science Museum in London. Children are at liberty to push buttons and pull levers to watch models in action. Some of the exhibits can be worked by the skill of the manipulator.

One of the most magnificent museums for children I have ever visited is the Museum of Science and Industry in Chicago. The lay-out is superb and the exhibits give every opportunity for learning.

The uses of museums seem to fall into four main categories:

1. Aesthetic appreciation
2. Character training (organisation and discipline)
3. Social training
4. Intellectual development

Therefore, it may be concluded that museum work helps a child to follow the course of normal healthy development.

*"Emotional development is concerned with the growth of a child's feelings, while physical development is concerned with the growth of his thinking processes."*

*"Social development — a child's capacity to experience feelings, to express feelings, and yet in some measure to control feelings."*

Bowley

#### 1. Aesthetic Appreciation

Children learn a great deal from the attitude of their teachers. In museums the staff is intensely interested in their work and the exhibits with which they are working. Therefore, the children tend to treat the specimens with respect and regard them with new interest.

There is something imposing about museums and art galleries both in London and the provinces. There is usually a "quiet" about the rooms which gives one the feeling of "stepping into the past." I think this atmosphere helps the children to take their work seriously. Most museums take trouble to keep their possessions in good repair and they are usually well presented and attractively laid out. This sets the children a good standard at which to aim and many children working in museum clubs take great trouble in the presentation of their work, e.g.:

writing clear and well spaced labels.

setting up well balanced and realistic displays.

### *2. Character Training*

In my experience, organised museum work enables the children to develop in many ways. The children are not only responsible for themselves in their method of work but also for their behaviour and self-discipline.

The children working at the N.H.M. organised themselves. They made many of their own rules and regulations for the smooth running of their community. Many expeditions into parks were carried out unaccompanied. Parents' permission was always needed but the children organised the expeditions and planned their groups. Usually groups worked on different aspects of the particular expedition and then joined together on their return to the Centre.

Clubs in museums and art galleries give the children a chance to think for themselves and discipline themselves.

There is a chance for each child to work and develop in his own way with the help and guidance of staff and one another.

### *3. Social Training*

Museum work provides ample opportunity for social development in children:

1. Relationships with adults

2. Relationships with other children

Any child going into a museum to follow up a piece of work is bound to come into contact with other people. In small museums they are only likely to meet the curator, but with organised clubs they will meet not only several adults who can help them in several fields, but also other children from whom they can learn.

Much can be learnt by watching children and their attitudes towards each other when they work in this way. Even on a school visit the children feel more freedom than they do in school.

From observations in the Museum Centre it will be noticed that the older or more able children tend to help younger or less able children to become more independent, e.g. they would show them where to seek their information but would leave them to work on their own.

Another observation is that children (particularly between the ages of 8 and 12 years) are most concerned to *be* and *do* as others. They like their efforts to be noticed and are pleased with praise. It matters very much what their peers think. Skill and tact is needed from the teacher here as some children lack confidence and are shy about having their efforts discussed.

#### *4. Intellectual Development*

Children have an innate desire to learn and are always asking questions. A museum is an ideal place for the solution to these questions. Often it is an excellent place for giving children opportunities to find answers by their own experience. They make use of these opportunities because they have chosen to undertake this work and are therefore interested in it.

Here is a situation where children can set their own aims and standards and, having done this, they do their best to attain them.

The learning here, which takes place through experience, will help to form a basis for the children's learning for many years to come.

Although children should feel that knowledge and skills are of value to them, eventually they will realise that learning itself is the most valuable aspect of the exercise.

Working in museums and other places of interest with ready sources of material, the children can do their own research. This they can then check. Later on with the confidence of this work behind them they can be persuaded to tackle projects on which little has been written. Having attached subjects which they can check, they learn scientific methods and are able to follow up their findings and reach their own conclusions.

Teachers must acquaint themselves with these kinds of facilities in order to encourage the children to make full use of them. By encouraging young people to visit and re-visit museums in their own time, often bringing with them parents and friends, we may develop the habit of museum visiting for knowledge, personal enjoyment, and aesthetic satisfaction. The visits help to establish the idea that education does not stop when school doors close. This, then, is education in one of its broadest senses — an education for life.

In order that museum visits by schools may achieve these ends, and in order that they may play their important role in education at all levels, it is essential that teachers (in whose hands is placed the responsibility for this education) learn to know their museums, how to use them, and to become familiar with the facilities available in the local situation.

### **II. RADIO AND TELEVISION BROADCASTS**

Children to-day are exposed to radio and television at home and also at school. Both play an important part in the process of learning for a child.

Radio and television broadcasts cover a full range of subjects at Infant, Junior and Secondary levels and provide a different stimulus from which the children can work.

Infant children enjoy stories with sound or visual effects and like to partake in music and movement broadcasts. These programmes last for short periods of time — ten, fifteen or twenty minutes.

Junior and Secondary children have broadcasts in most curriculum studies available to them. Languages are often introduced with many aids such as conversations, travelogue films, etc.

All schools are able to take advantage of radio programmes but many are still without television. Television sets are sometimes provided by the Local Education Authorities and sometimes with the help of fund-raising schemes — often sponsored by the P.T.A. — (Although becoming more widespread in Primary Schools, P.T.A.'s do not exist in every school. Our P.T.A. was formed in 1969.)

Most class teachers choose one radio and/or television programme to help with studies for the year.

The B.B.C. and I.T.V. send out brochures for each year with the ages for which programmes are suitable. Pamphlets and film strips (in the case of some radio-vision programmes) are ordered for each term.

During 1971-72, the radio series "Exploration Earth" were followed by my ten and eleven year olds. These programmes were designed to set the children to thinking about the various aspects of the environment. The producers of this particular programme were anxious that the broadcasts should not become ends in themselves. This year we took part in an experiment. Two sets of work involving two programmes each formed the basis for open-ended projects, worked on by the children.

#### I. MINING FOR IRON ORE IN LABRADOR

The first two programmes were about a small town in Labrador. During the first programme the children were shown a film strip which ran simultaneously with the broadcast. From this the children were able to notice the terrain, appreciate the climate and understand the different ways of life adopted in another part of the world.

The programmes were delivered in play form and the characters reinforced the information the children had already received.

Discussion naturally arose from the programmes and the children were then given statistics by the teacher. For example, they were given the costs of building huts, houses, churches, a school, a hospital, etc., a map of the physical features of the area, the position of the iron-ore quarry, a railway track, the direction of the prevailing winds and the scale. From this information, the children were asked to construct a town for the miners and their families. They were given a price limit of £ 50,000 and they had to consider how to use the money most economically.

There were many odd suggestions at first.

One boy said that he would use the money to build four churches.

"Why four churches?" I asked.

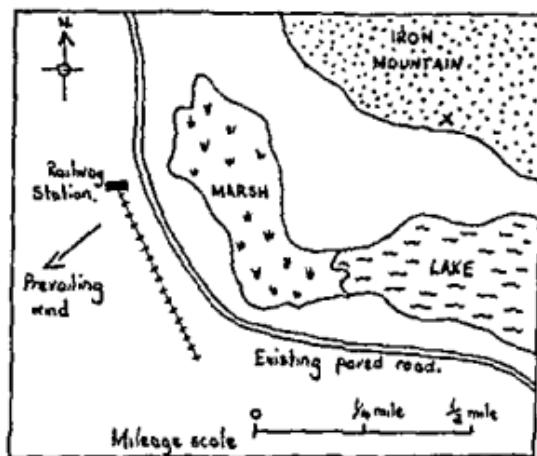
"Well," he replied, "They could have lots of fetes and bazaars to make money to build all the other things."

This child is not bright and it took a long time for the other members of the class to convince him of the impracticality of the suggestion.

Many of them were inclined to be in favour of two cinemas and no schools!

After much discussion the children formed groups or worked individually to build their towns.

Some drew maps, some drew pictorial maps, and others made models. Some of these models were made out of paper or cardboard but one was made with paper

Map of Town in Labrador

machete. This measured 3 ft. by 2 ft.

These pieces of work provoked more discussions. The children drew and painted pictures of the mining, the town and the countryside. Then each child wrote a letter as from someone in the town. These were packed full of information and showed how much they had learned.

#### *NOTES FOR MINING IRON ORE IN LABRADOR*

What you could build for your new town.

##### A. TRANSPORT

Unpaved road (gravel and dirt)	£ 500	per $\frac{1}{4}$ mile
Paved road	2,000	per $\frac{1}{4}$ mile
Feeder railway	2,000	per $\frac{1}{4}$ mile
Sea-plane base (on water)	1,000	per $\frac{1}{4}$ mile
Air-strip (for medium-sized aircraft — must be $\frac{1}{2}$ mile long.)	10,000	per $\frac{1}{4}$ mile

##### B. HOUSING

Bunkhouses (house 20 men in each)	1,000	(wooden)
Family houses (house 1 family in each)	5,000	(timber & concrete)
Apartments (house 6 families in each)	2,500	(timber & concrete)

**C. OTHER BUILDINGS**

Cookhouse and dining hall	2,000	(wooden)
Shop	5,000	(timber & concrete)
First Aid post (small)	2,000	(wooden)
Small Hospital	25,000	(timber & concrete)
Recreation hut (table-tennis etc.)	1,000	(wooden)
Cinema	2,000	(wooden)
Church	1,000	(wooden)
Church	2,500	(concrete)
Engineering workshop (small)	4,000	(wooden)
Engineering workshop (medium-sized)	10,000	(concrete)
Power Generators (to serve needs of 200 people)	10,000	each
Link with main power supply	250,000	
School	2,500	(wooden)

**POINTS TO REMEMBER**

1. If you place buildings anywhere they need roads of some kind to link them.
2. There must be a road and/or trail link between the quarry and the town, and quarry and the railway which is going to take the iron-ore away to the cost.
3. A lorry can shift 40 tons of ore in one journey; a train can shift about 10,000 tons of ore in one journey.
4. If roads or railways are built across marshy land, their cost increases. Roads will double in cost per  $\frac{1}{4}$  mile if any part of them touches marshland; railways will quadruple in cost if any part of them touches marshland.
5. If either roads or railways are built across lakes, their cost will increase by ten times per  $\frac{1}{4}$  mile.

**QUESTIONS TO THINK ABOUT**

When miners go to town in the north of Canada like this, do they take their families with them? If not, why Not?

Is it better to build small temporary wooden buildings first of all, or wait until you have the money and then build properly?

Is it worth building a small wooden first-aid post, if it will not be used after the hospital is built?

What are the advantages and disadvantages of paved and unpaved roads?

**II. WHICH WAY TO CANADA?**

This was a game project.

Teachers were asked to reproduce two maps showing the British Isles and the St. Lawrence Seaway. One map gave stages of three air routes and the other three sea routes.

The children listened to two broadcasts:

1. Manchester Ship Canal
2. St. Lawrence Seaway

From these programmes, discussions naturally developed. The idea of the game was to encourage children to see that a variety of methods in transportation can be used to travel from one place to another. The choice depends on time, money and what is to be moved. The rules were made to be flexible so that should current events provide new factors they could be included.

The children were asked to imagine that they were Mr. Brown who lived in Manchester. Mr. Brown decides to emigrate to Toronto and has to make arrangements to transport himself, his wife, and two children and all their belongings to Canada. (The belongings are packed in a very large trunk weighing eight times as much as a person.)

The maps were reproduced on a large board and the six routes marked in with small circles. (Each circle on the air routes represented  $\frac{1}{4}$  hour, and each circle on the sea routes represented  $\frac{1}{4}$  day.)

Some of these circles were marked x, y, or z. The children throw dice to determine how many places they move on their chosen route and if they land on a circle with an x, y, or z, they must take a chance factor card from one of these three groups, e.g.:

- x3 Runway blocked by damaged aircraft. Delay: 3 hours in time.
- x6 You fail to hear the announcement of your flight and miss the place.  
Delay: 9 hours in time: 20 extra fare charge.
- y4 An engine gives trouble. Plane decreases speed. Delay: Add 1 hour to journey time.
- z2 There is a fire in the hold. Baggage is badly damaged. You receive money from insurance, but it does not cover your losses. Cost: £25.

The children first have to make the decision about which route to take, e.g.:

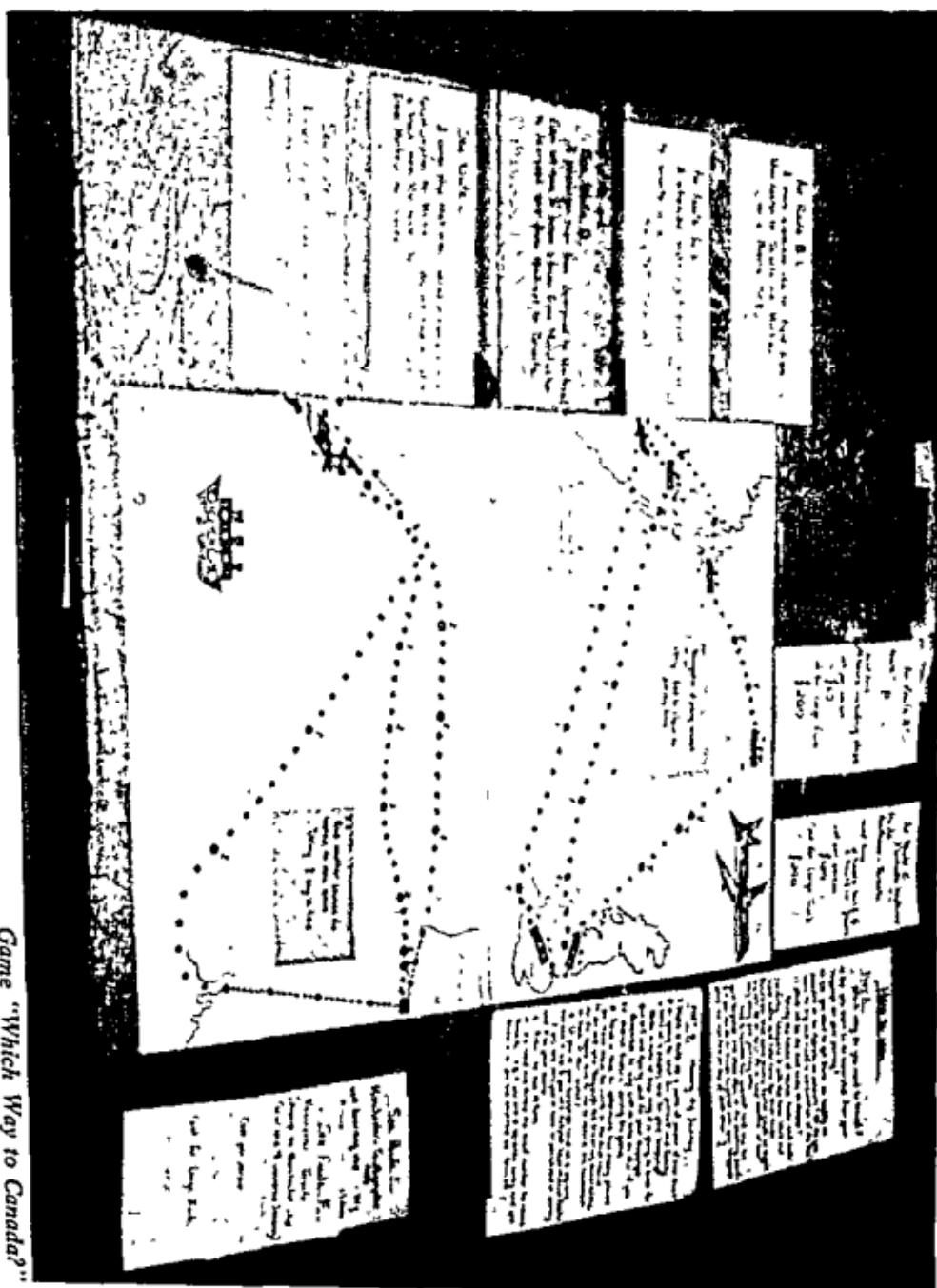
1. A cheap charter flight from Manchester to Toronto via Iceland and New Foundland, on a Douglas DC. 6.
2. A scheduled flight direct from London (Heathrow) to Toronto on a Boeing 747.
3. A cargo ship that goes direct from Manchester (down the Ship Canal) to Toronto (via the St. Lawrence Seaway.)
4. A passenger liner from Liverpool to Montreal.

Then such decisions as whether or not to have the baggage travel separately, to put emphasis on greater speed or less expense, have to be made.

Then during play, the children must work out the cost of the journey and the length of time it takes.

The object of the game is to help them understand that there are advantages and disadvantages to all the journeys and what seems to be the quickest or least expensive when planned does not always turn out to be so.

This was an experimental game and the children enjoyed playing it. However, I found that at the 10-11 year old stage, many of them wanted the conventional competitive game, where there is an obvious winner at the end.



Game "Which Way to Canada?"



Children playing "Which Way to Canada?"

After these programmes the producer visited various areas of the country and teachers involved in the experiment met together to discuss the merits of such programmes in providing material from which the children can expand their project work.

After the meeting at the Studio, the producer visited us in class and talked to the children. I felt that he really wants to provide programmes which will suit the needs of the children in the classroom. This is obviously the beginning of a great change in the presentation of work in radio and television for schools.

I must mention here that I attach great value to some of our television programmes out of school time. Together with many adults I feel that most children see much which is unsuitable for them but during each day there are times devoted especially for them. For fifteen minutes during both the morning and the afternoon, programmes are put out for those under school age. From 4.40 p.m. until 5.50 p.m. there are programmes for those who attend school. (Many families gather together during this time and some of the programmes are extremely popular with the adults.)

The programmes vary from day to day. The first part of each programme is devoted to the younger viewers and usually takes the form of a story told with the aid of pictures. The rest of the time is usually divided into two sections to provide a contrast and to cater to varying tastes.

Each week there is an episode of a dramatised serial. (During 1972-73 we watched an excellent production of "Little Women.")

Once a week there is a science information programme, children's newsreel, some aspect of sport, various comedy series, cartoons, quizzes and a programme for deaf children.

For part of the year, Friday afternoon is devoted to Request Time. These requests can be for any programme of the previous week, not necessarily those especially designed for children. This is always very popular.

For most of the year, a twice weekly magazine programme is shown on B.B.C. (The Independent Channel has a similar programme.) This seems to be the "winner" with the children.

The programme is called "Blue Peter" — named after the flag which is raised within twenty-four hours of a ship leaving harbour. The producers think that the programme is similar to a ship setting out on a voyage, because each week the team — Val, John and Peter — search out new adventures and discover new things.

Badges are awarded to viewers who send letters with good ideas for the programme, drawings, models, etc. A silver badge is awarded for a second contribution which is different from the first. Gold badges are awarded for outstanding achievements such as saving a life or representing the country in some way. Children are invited to the studio for the presentation of these. Competition badges are awarded for the winners of the competitions.

Since 1962 a variety of pets have been kept on the programme. There are two dogs and a Siamese cat. The children were asked to suggest names for these. Petra was the first dog (feminine of Peter.) Shep is a sheep dog and was bought when the

team went on an expedition "Blue Peter Flies North." The children were asked to choose a short name as Sheepdogs who are used for work must have short names so that they can be given quick commands. From the purchase of Shep the children were introduced to much information on Sheep farming, Sheep Dog Trials, etc.

When Petra produced eight puppies there were thousands of offers from viewers to give them good homes. It was decided to give the puppies to homes or organisations where they could give greatest pleasure or lead useful working lives. Three went to Children's Homes, two went on to farms, one went to an Old People's Home, one became a Regimental Mascot and the other was kept by a member of the team.

During each programme the children are shown how to create something from items easily obtainable in the home. They are encouraged to save items which can be collected and sold to make money for various activities. Charts are kept to show the viewers how their efforts are helping towards the achievement of the target. So tremendous has been the response to some of these collections that the Post Office usually allows these goods to be handled free of charge.

In 1966, a target was set for the purchase of 60,000 paperbacked books to buy one Inshore Rescue Craft. The response was 240,000 books which purchased four Inshore Rescue Craft.

In 1967 a target was set for 120,000,000 used postage stamps for a house to be converted into two apartments to house two homeless families. The response was 750,000,000 stamps and four houses for eight families.

Another year a target was set for 200,000 parcels of spoons and forks for three eight-berth Holiday Trailers for physically handicapped children. The response was 2,250,000 parcels to buy the trailers and a Log Cabin.

Other appeals have bought Guide Dogs for the blind, tractors and other equipment for a farm School in Africa. Hospital trucks and buses, television sets and specially adapted chairs and baths for Old People.

Each year the team sets out on a Major Expedition taking a television camera crew with them. The films of these excursions are shown to the children along with the souvenirs brought back. The team has visited Norway, Singapore, Jamaica, Morocco, Ceylon, Mexico, Iceland and Denmark.

In 1968, Daniel, a fourteen-week old baby made his first appearance. He made regular appearances over the next few years to show viewers who did not have baby brothers or sisters of their own, how babies grow and develop and how they should be looked after.

Places of interest and craftsmen are visited by members of the team and visitors are invited to the studio for the programme.

I try to watch children's programmes as often as possible. Most children watch some Children's Television each day. Many children can be "reached" in discussions on such programmes. Quite often topics arise from them and what the children have seen is very real to them.

### III. USE OF OTHER VISUAL AIDS IN SCHOOL

I do not need to list the visual aids which can be used in the classroom. Anything can be used if you are fortunate to possess it.

In our school of over 600 we have radio speakers in most rooms, two transistor sets, two tape recorders, one record player and one slide projector.

If we had more we could use them and anyone fortunate enough to have more access to tape recorders for instance can make great use of them. I would like a tape recorder as part of the permanent equipment in my room. They are invaluable for children to work with language and music.

Some of the machines I have seen in use in the U.S.A. for help in reading, etc. are obviously a great help to the teacher.

However, I should be sorry to see machines used to the extent that children stopped thinking for themselves and confined themselves to the limits set by a programme.

Most Local Education Authorities in this country have a Library Service. Sometimes money is paid to the Central Public Library for issue of books which are then repaired by the Library. In other places, a mobile unit tours the area and children can exchange books during the regular visits.

There is also a Central Library for films, tape recordings, and records. In our Authority, we also have a Ward-robe from which costumes for dramatic productions can be hired.

### IV. TEACHERS' CENTRES

Another service for help and information for teachers is the *Teachers' Centre*.

In Nottingham, the Authority has taken over a large old building and has converted it into a Centre under the exclusive Control of the teachers of Nottingham.

This building houses libraries and stocks of materials for the use of teachers. Most important there is a large Assembly Hall in which meetings can be held and exhibitions mounted.

Recently, I attended various courses at the Centre, several on the teaching of reading; also a meeting on the use of visual aids in Environmental Studies.

The City Library mounted an exhibition of new publications for a two week period. Teachers were released from school to visit the exhibition and to place orders for the coming year.

These centres can be used by groups of teachers to meet together after school. Rooms can be booked by small groups and displays mounted for use by other visitors. Centres such as these provide facilities for teachers at different age groups to come together and appreciate the work going on at different levels in other departments.

## Progress Reports

**T**HE method of keeping records on each child's attainment varies from school to school.

In Secondary Schools, reports are sent to the parents several times each year and once a year the parents are asked to meet with the teachers.

At many Primary Schools, no written reports are sent home. It is felt that these can easily be misinterpreted. Because so much emphasis is placed on the amount of effort children should make at this stage, the amount of achievement attained is not necessarily reflective of this in the early school years.

Parents are welcome in school at any time and twice a year they are invited to a conference with the teacher. Work is always displayed around the school and in the classroom so that parents can see the standard of work which is being achieved. As the children work in exercise books, their progression can easily be seen. These books are kept throughout the year and then taken home by the children.

Teachers keep books in which they record the various stages reached in development, the books read by the children, the skills mastered etc.

Twice a year, records are written which go into a class folder which is passed from teacher to teacher as the children pass through the school.

Here is a sample page from such records. These were compiled and approved by the staff as containing all relevant information and giving the opportunity to describe individual talents and problems.

NAME:

CLASS

Date of Birth:

Home Conditions

Language Skills

Mathematics

Creative Work

Titles of Individual interest books

Titles of Individual Story books

Behaviour and Attitude

<u>Standardized tests</u>	Feb.	June	Other Remarks:
Reading			
Math			
Spelling			

Signed .....

## Some Final Reflections

**J**T is now seven months since I sat by the fire to begin this work. It is summer, 1972, and I am now sitting by an open window looking at a garden in full bloom and contemplating the six week summer holiday.

In gathering together my thoughts for this book I have come to a greater understanding of what the education of young children really means.

Teaching in an informal way develops through the personal relationships throughout a school. There cannot be a syllabus but only guide lines which can be developed by individual teachers. Because of this it was difficult to separate subjects from each other as so much of the learning which takes place in a school cannot be considered as part of one particular section of the curriculum. It had to be categorised in this way to attempt to avoid the confusion which arises in explanation of individual group and class activities.

I hope that from what I have written, it can be seen that from a basically informal approach and real appreciation of the children's interests and ideas, a true learning situation can develop, and each individual can grow at his own rate, aiming to achieve the standards set for him.

Progress must be noticed and recorded but the same standards cannot be set for all the children within the group. If marks are given throughout the classes there will always be an upper section who get high marks and a lower section which will be at the bottom. Therefore, the majority of children will experience constant failure. There should be a balance of success and failure and this can only be truly effective if individual standards are set.

This is not to suggest that the individual should be unaware of the group in which he finds himself. On the contrary, he must learn to take his place and play his part within it. However, as teachers, I am sure that it is only by knowing the 'individual' and 'helping him to know himself' that we can develop a community spirit and prepare the children for the lives ahead of them.

Looking back over these last seven months, perhaps I could have best described an "open" situation in school by writing, day by day, a diary. So much has happened, so many ideas and projects have grown and developed.

It seems fitting that this conclusion should finish where the introduction began — reflecting on the children's reactions in the Nottingham Playhouse.

On Saturday last, the performance of "Joseph, and the Amazing Technicolor Dreamcoat" was played to an audience of 750 on the stage of this beautiful, modern theatre.

I stood outside a side door of the auditorium waiting to open it five minutes

after the beginning for two of the cast to enter. Through the crack in the door we watched the house lights dim as a voice came through the foyer saying, "Ladies and Gentlemen, Boys and Girls — please take your seats. The performance is about to begin."

The two boys beside me shivered with excitement; one said, "It's really starting!"

The other (very quietly) said, "I'll never forget this, not ever!"

Watching that performance and seeing the faces of those children before a quiet, appreciative audience, I knew that the time and effort spent on this kind of activity is very worthwhile. The children had learned so much during these months. They had learned music and drama, details of recording techniques, behind the scene activities of a theatre and programme planning. But more than this, they had learned tolerance, control and self discipline. They had to get themselves to rehearsals, prepare their costumes and instruments, and use their common-sense when things did not go according to plan. This they did in a variety of ways, sometimes surprising the adults with their ability to cope with unexpected situations. Above all, these children of such a wide range of ability experienced achievement and if education is "instruction and learning," then these children certainly have been educated.

## About The Author

**L**ESLEY Gingell grew up and attended school in "The Cotwolds" in the "West Country" of England. There she specialized in botany and zoology where she obtained the Advanced Level Certificate of Education.

Ms. Gingell did her teacher training in Whitelands College of London. She received her Teachers' Certificate of Education at London University with Merit in Biology and Distinction in Practice of Education.

Since 1963 Ms. Gingell has taught in Nottingham City except for the 1968-69 exchange year when she taught in Iowa. Nearly every year since her exchange year she has been invited to return to the United States and Canada as a consultant or speaker by a number of educational institutions. She has served as a consultant to numerous school districts and institutions and has participated in various workshops concerned with the "ABC's of the Open Classroom." Moreover, Ms. Gingell has fulfilled a large number of speaking engagements including ones in such prestigious institutions as the Erikson Institute, Roosevelt University, and the University of Chicago.

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